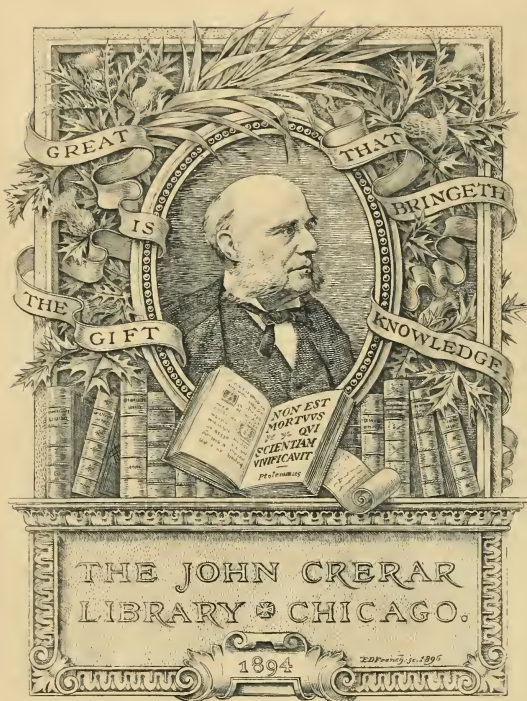








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VOL. X

DECEMBER, 1913

NO. 5

BULLETIN OF BROWN UNIVERSITY

THE CATALOGUE

1913-1914

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1944



PROVIDENCE
PUBLISHED BY THE UNIVERSITY

[APRIL, MAY, JUNE, OCTOBER, DECEMBER]

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Correspondence addressed simply to Brown University, Providence, Rhode Island, may be expected to reach the proper department, but in order to avoid delay correspondents are requested to note the following directions:

Communications relating to matters directly in the charge of the Corporation, and all correspondence bearing upon the general interests of the University, should be addressed to the President.

Requests for the Annual Catalogue and other publications, and inquiries relating to the admission of Undergraduate students should be addressed to the Registrar.

Inquiries concerning scholarships should be addressed to the Secretary of the Committee on Scholarships.

Inquiries concerning other matters pertaining to Undergraduate students should be addressed to the Dean of the University.

Inquiries in regard to the Graduate Department should be addressed to the Dean of the Graduate Department.

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Inquiries or information concerning Alumni should be sent to the Keeper of Graduate Records, University Library.

THE CATALOGUE
OF
BROWN UNIVERSITY

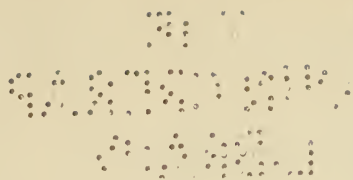
ONE HUNDRED AND FIFTIETH YEAR

1913-1914



PROVIDENCE, RHODE ISLAND
PUBLISHED BY THE UNIVERSITY

1913



D. B. UPDIKE, THE MERRYMOUNT PRESS, BOSTON

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CALENDAR 1913-1914

Vacations and Holidays occurring within the Academic Year 1913-14 are indicated by dark type.

1913	1914	1914
JULY	JAN.	JULY
S M T W T F S	S M T W T F S	S M T W T F S
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28 29 30	22 23 24 25 26 27 28	27 28 29 30
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26 27 28 29 30 31 ..	26 27 28 29 30 . . .	25 26 27 28 29 30 31
NOV.	MAY	NOV.
.. 1	 1 2	1 2 3 4 5 6 7
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9 10 11 12 13 14 15	10 11 12 13 14 15 16	15 16 17 18 19 20 21
16 17 18 19 20 21 22	17 18 19 20 21 22 23	22 23 24 25 26 27 28
23 24 25 26 27 28 29	24 25 26 27 28 29 30	29 30
30	31	
DEC.	JUNE	DEC.
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21 22 23 24 25 26 27	21 22 23 24 25 26 27	20 21 22 23 24 25 26
28 29 30 31	28 29 30	27 28 29 30 31

THE UNIVERSITY CALENDAR 1913-14

1913

- SEPTEMBER 3. *Wednesday.* Annual Meeting of the Corporation (first Wednesday in September).
- SEPTEMBER 17-22. *Wednesday, Thursday, Friday, Saturday, and Monday.* Examinations for admission to the Freshman class and to advanced standing.
- SEPTEMBER 22, 23. *Monday and Tuesday.* Registration of new students and enrolment of students previously in residence.
- SEPTEMBER 24. *Wednesday.* ACADEMIC YEAR BEGINS (fourth Wednesday in September). Registration of Graduate students.
- OCTOBER 4. *Saturday.* Examination in Greek for the President's Premiums, 5 Maxcy Hall, 2.30 p.m.
- OCTOBER 8. *Wednesday.* Examination in Latin for the President's Premiums, 1 Sayles Hall, 2.30 p.m.
- OCTOBER 11. *Saturday.* Examination in Mathematics for the Hartshorn Premiums, 27 Wilson Hall, 2 p.m.
- OCTOBER 15. *Wednesday.* Examination in French for the Hicks Premiums, 1 Sayles Hall, 2.30 p.m.
- OCTOBER 18. *Saturday.* Examination in German for the Hicks Premiums, 5 Sayles Hall, 2.30 p.m.
- NOVEMBER 27. *Thursday.* Thanksgiving Day. No University exercises.
- DECEMBER 3. *Wednesday.* Preliminary discussion for the Class of 1880 Prizes.
- DECEMBER 5. *Friday.* Last day for receiving essays submitted in competition for the Class of 1880 Prizes.
- DECEMBER 10. *Wednesday.* Public discussion for the Class of 1880 Prizes.
- DEC. 22, 1913, to }
JAN. 1, 1914. } *Monday to Thursday inclusive.* CHRISTMAS RECESS.

1914

JAN. 26 to FEB. 5.	<i>Monday to Thursday.</i> Semester examinations.
FEBRUARY 2.	<i>Monday.</i> Last day for applications of competitors for the Carpenter Prizes in Elocution.
FEBRUARY 6-10.	<i>Friday to Tuesday inclusive.</i> MID-YEAR RECESS.
FEBRUARY 9, 10.	<i>Monday and Tuesday.</i> Enrolment of Undergraduate students.
FEBRUARY 11.	<i>Wednesday.</i> SECOND SEMESTER BEGINS. Enrolment of Graduate students.
FEBRUARY 23.	<i>Monday.</i> Observed as Washington's Birthday. No University exercises.
MARCH 2.	<i>Monday.</i> Last day for applications of competitors for the Bishop McVickar Prizes.
MARCH 25.	<i>Wednesday.</i> Last day for receiving essays submitted in competition for the Gaston Prize Medal.
APRIL 1.	<i>Wednesday.</i> Last day for receiving applications for examination for the degree of Doctor of Philosophy, or of Master of Arts <i>in absentia</i> .
APRIL 2-8.	<i>Thursday to Wednesday inclusive.</i> SPRING RECESS.
APRIL 15.	<i>Wednesday.</i> Last day for receiving applications for the Grand Army of the Republic Fellowship.
APRIL 28.	<i>Tuesday.</i> Carpenter Prize Speaking Competition.
APRIL 30.	<i>Thursday.</i> Last day for receiving theses of candidates for the degree of Doctor of Philosophy.
MAY 2.	<i>Saturday.</i> Last day for receiving essays submitted in competition for the Bishop McVickar Prizes.
MAY 5.	<i>Tuesday.</i> Gaston Prize Medal Competition.
MAY 12.	<i>Tuesday.</i> Hicks Prize Debate.
MAY 29.	<i>Friday.</i> Last day for examinations for advanced degrees.
MAY 30.	<i>Saturday.</i> Memorial Day. No University exercises.
JUNE 2-12.	<i>Tuesday to Friday.</i> Semester examinations.

- JUNE 14. *Sunday.* Baccalaureate Sermon, First Baptist Meeting House, 4.30 p.m.
- JUNE 15. *Monday.* Class Day.
- JUNE 16. *Tuesday.* Annual Meeting of the Phi Beta Kappa Society, Administration Building, 9.30 a.m.
Ivy Day, Pembroke Hall.
Annual Meeting of the Associated Alumni, Lyman Gymnasium, 6.30 p.m.
- JUNE 17. *Wednesday.* ONE HUNDRED AND FORTY-SIXTH ANNUAL COMMENCEMENT (third Wednesday in June), First Baptist Meeting House, 10 a.m.
- JUNE 18. *Thursday.* Meeting of the Corporation.
- JUNE 18 to SEPT. 22. SUMMER VACATION.
- SEPTEMBER 2. *Wednesday.* Annual Meeting of the Corporation (first Wednesday in September).
- SEPTEMBER 16-21. *Wednesday, Thursday, Friday, Saturday, and Monday.* Examinations for admission to the Freshman class and to advanced standing.
- SEPTEMBER 21, 22. *Monday and Tuesday.* Registration of new students and enrolment of students previously in residence.
- SEPTEMBER 23. *Wednesday.* ACADEMIC YEAR BEGINS (fourth Wednesday in September).

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STEPHEN SHELDON COLVIN, PH.D. <i>Professor of Educational Psychology</i>	146 Taber Avenue
ALFRED HARRISON JONES, PH.D. <i>Assistant Professor of Logic</i>	98 Cushing Street
LUCIUS MOODY BRISTOL, PH.D. <i>Assistant Professor of Sociology</i>	156 Prospect Street
HAMILTON CRAWFORD MACDOUGALL, Mus.D. <i>Lecturer in Music</i>	Wellesley, Mass.
NATHAN STERN, PH.D. <i>Lecturer in Biblical Literature and History</i>	219 Benefit Street
CLINTON HARVEY CURRIER, A.M. <i>Instructor in Mathematics</i>	311 Wayland Avenue
ROBERT McBURNEY MITCHELL, A.B. <i>Instructor in German</i>	144 Congdon Street
JOHN JOSEPH LONG, PH.B. <i>Instructor in Mechanical Drawing and Civil Engineering</i>	24 President Avenue
NORMAN EDWARD HOLT, A.B., Sc.M., PH.D. <i>Instructor in Chemistry</i>	322 Maxcy Hall
ROBERT FRANKLIN FIELD, A.M. <i>Instructor in Physics</i>	25 Wilson Street
ROBERT GAMBLE CASWELL, PH.B., Sc.M. <i>Instructor in Chemistry</i>	35 Caswell Hall
JAMES ALEXANDER HALL, A.B., Sc.B. <i>Instructor in Mechanical Engineering</i>	31 Pocasset Avenue
BERNARD ALOYSIUS KEENAN, A.B. <i>Instructor in German and French</i>	8 Caswell Hall
ALBERT EDWARD RAND, PH.D. <i>Instructor in German</i>	134 Lloyd Avenue

HENRI FERDINAND MICOLEAU <i>Instructor in French</i>	262 Brown Street
ALFRED CARY HAWKINS, A.M. <i>Instructor in Geology</i>	39 Benevolent Street
WALTER CLARK PHILLIPS, A.M. <i>Instructor in English</i>	427 Maxcy Hall
JOHN HENRY WILLIAMS, A.B. <i>Instructor in English</i>	23 Caswell Hall
LEIGHTON TEETERICK BOHL, Sc.B. <i>Instructor in Civil Engineering</i>	32 Henry Street, Edgewood
CLARENCE NEWTON REYNOLDS, JR., Ph.B. <i>Instructor in Mathematics</i>	105 Abbott Street
FLORENCE HARRIS DANIELSON, A.M. <i>Instructor in Physiology and Household Economics in the Women's College</i>	118 Cushing Street
FRANK THURSTON HALLETT, A.M. <i>Instructor in Greek</i>	47 South Angell Street
FRANK CARLETON BLAKE, Sc.B. <i>Assistant in Physics</i>	9 Searle Street
KARL HENRY KOOPMAN, A.B. <i>Assistant in English</i>	76 Taber Avenue
JOHN THOMAS OWENS, A.B. <i>Assistant in English</i>	18 University Hall
BENJAMIN CROCKER CLOUGH, A.B. <i>Assistant in English</i>	2 Angell Street
THOMAS CLARK SHEDD, Sc.B. <i>Assistant in Mechanical Engineering</i>	432 Walker Avenue, East Providence
CLARENCE EDWIN AYRES, A.B. <i>Assistant in Philosophy</i>	35 Caswell Hall
CLARENCE FRANK GIFFORD, A.M. <i>Assistant in Education</i>	21 Hope College
THOMAS HOWARTH ROBERTS, Ph.B. <i>Assistant in Chemistry</i>	36 Babcock Street
SAMUEL TOMLINSON ARNOLD, A.B. <i>Assistant in Chemistry</i>	119 Waterman Street
JOHN BURNHAM FERGUSON, A.B., M.D. <i>Demonstrator in Anatomy</i>	369 Broad Street
THERON CLARK, A.B. <i>Assistant Registrar</i>	152 Congdon Street
EMMA BRADFORD STANTON, A.M. <i>Registrar of the Women's College</i>	Bristol

JAMES FRANKLIN COLLINS, PH.B. <i>Demonstrator in Botany</i>	468 Hope Street
HENRY DEWEES CADY <i>Instructor in Shop Practice</i>	2 University Hall
M. ELIZABETH BATES <i>Instructor in Hygiene and Physical Education in the Women's College</i>	118 Cushing Street
SARAH GRIDLEY ROSS, A.B. <i>Head of Miller Hall, Women's College</i>	118 Cushing Street
EDWIN AYLSWORTH BURLINGAME <i>Superintendent of Grounds and Buildings</i>	359 Brook Street
PETER PINEO CHASE, M.D. <i>Physician to the University</i>	62 College Street
HARRY EDWARD ROELKE, PH.B. <i>Reference Librarian</i>	11 Brunonia Hall
PHEBE PARKER, A.B. <i>Cataloguer</i>	7 Congdon Street
OTILIE ROSE METZGER, A.B. <i>Assistant Reference Librarian</i>	52 Alumni Avenue
EVELYN BUTLER TILDEN, A.B. <i>Clerk in the Library</i>	68 Lloyd Avenue
MARY WIDMAN BRONSON, PH.B. <i>Assistant Cataloguer</i>	11 Benefit Street
JESSIE HELEN BARR, A.B. <i>Assistant Cataloguer</i>	117 Howell Street
REBECCA PHILLIPS STEERE <i>Cataloguer in the John Carter Brown Library</i>	84 Waterman Street
MARGARET BINGHAM STILLWELL, A.B. <i>Assistant in the John Carter Brown Library</i>	53 Elton Street
JOHN EDWARDS <i>Assistant in the Ladd Observatory</i>	Ladd Observatory
LUCIUS JOSEPH GAY <i>Assistant in the Gymnasium</i>	46 Daboll Street
CHARLES HENRY HUGGINS <i>Assistant in the Gymnasium</i>	100 Lancaster Street
LOUISE PROSSER BATES, A.M. <i>Keeper of Graduate Records</i>	Oak Lawn
GENE WILDER WARE, A.B. <i>Organist and Director of Chapel Music</i>	136 Adelaide Avenue

STANDING COMMITTEES OF THE FACULTY

ON REGISTRATION AND ATTENDANCE

Dean RANDALL, Professors DELABARRE, HILL, FOWLER, HUNTINGTON, and RICHARDSON, Dean KING, Mr. GUILD.

ON THE CURRICULUM

Professors POLAND, DAVIS, HARKNESS, GARDNER, RANDALL, BRONSON, EVERETT, ALLINSON, HILL, MEAD, MACDONALD, and VON KLENZE, Mr. GUILD.

ON STUDENT ORGANIZATIONS

Professors DELABARRE, LANGDON, HILL, POTTER, MARVEL, and BENEDICT.

ON STUDENT ADVISERS

Professors GREENE, CROSBY, BROWN, and HUNKINS.

ON EXAMINATIONS

Professors HILL and RICHARDSON, Mr. GUILD.

OFFICE HOURS

THE PRESIDENT. 11 Administration Building. *For University Students*, 9 Administration Building: 12 m. to 1 p.m.

THE DEAN OF THE UNIVERSITY. 7 Administration Building: 1.30 to 2.30 p.m., *except Saturdays*.

THE REGISTRAR, AND SECRETARY OF THE FACULTY. Consultation Hours, 1 Administration Building: 11.30 a.m. to 12 m., 3.15 to 4 p.m.; *Saturdays 11.30 a.m. to 1 p.m.* 4 Administration Building: 12 m. to 1 p.m., *except Saturdays*.

THE ASSISTANT REGISTRAR. 4 Administration Building: 8.30 a.m. to 12 m., 1.30 to 4 p.m.; *Saturdays 8.30 a.m. to 1 p.m.*

THE DEAN OF THE GRADUATE DEPARTMENT. 5 or 6 Wilson Hall: 12.20 to 1.20, and 3.20 to 4.20 p.m.

THE LIBRARIAN OF THE UNIVERSITY. The John Hay Library: 9 to 10 a.m., 3 to 4 p.m.; *Saturdays 9 to 10 a.m.*

THE LIBRARIAN OF THE JOHN CARTER BROWN LIBRARY. The John Carter Brown Library: 9 a.m. to 5 p.m.

THE SECRETARY OF THE TEACHERS' BUREAU. The John Hay Library: 4.20 p.m. *Mondays and Fridays*; 5.20 p.m. *Wednesdays*; 12.20 p.m. *Saturdays*.

THE SUPERINTENDENT OF GROUNDS AND BUILDINGS. 1 University Hall: 8.30 to 9.30 a.m., *except Mondays*; 2 to 2.30 p.m., *except Saturdays*.

THE DEAN OF THE WOMEN'S COLLEGE. Pembroke Hall, Meeting Street: 9.20 to 10.20 a.m., *except Saturdays.*

THE REGISTRAR OF THE WOMEN'S COLLEGE. Pembroke Hall, Meeting Street: 9 a.m. to 1.15 p.m., 2.15 to 4 p.m.; *Saturdays to 1 p.m.*

THE PHYSICIAN TO THE UNIVERSITY. P. P. CHASE. 62 College Street: 2 to 4 p.m., 7 to 8 p.m. *Telephone, Angell 1012-W.*

THE COMMITTEE ON ABSENCES. H. B. HUNTINGTON, Secretary. 5 Administration Building: 1.30 to 2.15 p.m., *except Wednesdays and Saturdays.*

THE SUPERVISOR OF ATHLETIC ORGANIZATIONS. F. W. MARVEL. The Gymnasium: 9 to 10 a.m., 2 to 3 p.m.

THE SUPERVISOR OF NON-ATHLETIC ORGANIZATIONS. J. C. DUNNING. The John Hay Library: 2 to 4 p.m., *except Wednesdays and Saturdays.*

THE PUBLICITY COMMITTEE. W. T. HASTINGS. 36 University Hall: 8.30 to 9.15 a.m., *daily, 5 to 6 p.m., except Saturdays.*

HISTORY OF BROWN UNIVERSITY

A GENERATION before the establishment of any institution of higher education in Rhode Island, Dean (afterwards Bishop) Berkeley, in pursuance of his cherished design of planting a Christian college in America, chose this colony as his place of residence. Here, at Newport or in its vicinity, he lived for nearly three years, from 1729 to 1731. At the close of this period it became evident that the money which had been voted for the project by the House of Commons would not be paid, and Berkeley reluctantly abandoned his project and returned to England. Though he had no direct relation to the college afterwards established, yet he inspired an interest in higher education among the colonists and thus made easier the success of the later undertaking.

In 1762 the Philadelphia Baptist Association, in view of the disabilities attaching to Baptist students in most of the existing American colleges, welcomed a proposal offered by the Reverend Morgan Edwards, a clergyman of Welsh birth, at that time pastor of the First Baptist Church in Philadelphia, to found in Rhode Island a college that should be under the control of their own denomination. James Manning, who had just been graduated from Princeton, was appointed by the Association as its agent to establish "a seminary of polite literature subject to the government of the Baptists."

In deciding upon the location of the new college, a canvass of the colonies had shown the advantages to be clearly on the side of Rhode Island, which recognized absolute religious liberty, and was, moreover, a Baptist colony in origin and popular attachment. There was no rival institution in the field; and the important cities of Newport and Providence, the former being the second city in New England, furnished an encouraging prospect of future support. Accordingly, in 1764, the friends of the movement obtained from the General Assembly the charter which still remains in force. Although, under the rules of the charter, the President and a majority of both the Fellows and the Trustees must be Baptists, the three important positions of Chancellor, Secretary, and Treasurer are without denominational restriction, and all religious tests and sectarian instruction are strictly prohibited. The institution was known during the first forty years of its existence as Rhode Island College.

As the College was at the beginning without funds, and only a scanty return could be expected from students' fees, it was necessary that the president should support himself and his family by some other means. The founding of a Baptist church in Warren and the call of Mr. Manning to its pastorate offered a solution of the difficulty; and hither Mr. Manning brought his family in the spring of 1764. His first act towards the establishment of a college was the opening of a Latin school. This preparatory school was later removed with the College to Providence, where it flourished for a hundred and forty years under the name of the University Grammar School. At the second meeting of the Corporation, September 4, 1765, Mr. Manning was formally appointed "president of the College, professor of languages and other branches of learning;" the first student had been matriculated the day before. In the following year David Howell was appointed tutor, but no other addition was made to the Faculty until 1774. In 1769 the first class (of seven members) was graduated at Warren. This town had not generally been regarded as the permanent seat of the College, and the necessity which now arose of erecting a college building compelled a final choice of location. After a spirited contest for the honor among the leading towns of the colony, the choice fell upon Providence. Here in 1770 the first college building, the present University Hall, modeled after Nassau Hall at Princeton, and a house for the president were both built on the college grounds, the cost being covered by subscriptions, chiefly from residents of Providence.

In 1771 President Manning was called to the pastorate of the First Baptist Church in Providence; he served the church in this capacity, in addition to his college duties, from that date until the close of his life. In December, 1776, the work of the College was interrupted by the Revolutionary War, and it was not resumed until the fall of 1782, University Hall being used meanwhile as a barrack and hospital for the combined American and French troops. Upon the reorganization of the College important additions were made to the library and the philosophical apparatus. The first college funds, amounting to \$4500, were collected in England and Ireland by the Reverend Morgan Edwards in 1767-8. In the next two years the Reverend Hezekiah Smith obtained subscriptions amounting to \$2500 in South Carolina and Georgia. The former contribution was made a permanent fund; the latter was expended in the construc-

tion of the college buildings. Further gifts were received for a time from the Philadelphia, Charleston, and Warren Baptist Associations, but they appear to have ceased with the outbreak of the Revolutionary War. In 1791, after twenty-nine years of service as founder and director of Rhode Island College, President Manning died. The College had become firmly established, with a graduate roll of one hundred and forty-nine; the last graduating class, that of 1790, had numbered twenty-two. At the time of his death the Faculty consisted of the president, four professors, and two tutors. The discipline during this period had been strict and paternal, the officers of instruction living under the same roof with the students and making frequent visits of inspection to their rooms. President Manning at first taught all the branches studied, but was designated professor of languages, afterwards of moral philosophy. David Howell, his assistant, taught mathematics and natural philosophy, and is said to have taught also French, German, and Hebrew. He was appointed professor of natural philosophy in 1769, and of law in 1790, but never taught the latter subject. Benjamin Waterhouse was appointed professor of natural history in 1784; and Benjamin West, professor of mathematics and astronomy in 1786.

The successor of President Manning was the Reverend Jonathan Maxcy, a graduate in the class of 1787, who had been professor of divinity 1791-2. He served from 1792 until 1802, when he resigned his office to accept the presidency of Union College. During the last year of his administration at Rhode Island College a class numbering twenty-eight was graduated.

The third president of the College, the Reverend Asa Messer, a graduate in the class of 1790, who had served as professor of learned languages 1796-9, and of mathematics and natural philosophy 1799-1802, directed the affairs of the institution from 1802 until his resignation in 1826. During his presidency of twenty-four years the College was greatly expanded. A class numbering forty-eight was graduated in 1825, the Faculty in that year consisting of the president, nine professors, and two tutors. A medical school was established, which existed from 1811 until 1828 and sent out eighty-seven graduates. The special professorships created for the medical school were: materia medica and botany, 1811; anatomy and surgery, 1811; chemistry, 1811; theory and practice of medicine, 1815. A professor of moral philosophy and metaphysics was appointed in 1811; one of oratory and belles-lettres in 1815; and one of the Latin and

Greek languages and literature in 1825. In 1826 the permanent funds of the University amounted to \$31,300.

In 1792 Nicholas Brown, a graduate in the class of 1786, gave \$500 with which to purchase law books for the Library. In 1804 he endowed a professorship of oratory and belles-lettres. In the same year the name of the institution was changed in his honor to Brown University. In 1822 he built Hope College at his own expense, in 1834 Manning Hall, and in 1840 the second president's house. The last-named building has been used since 1899 as a refectory. The total value of Mr. Brown's various gifts to the University was not less than \$160,000. Mr. Brown also served the University in a most efficient way as treasurer 1796-1825. He was trustee 1791-1825, and fellow from 1825 until his death in 1841.

The fourth president, the Reverend Francis Wayland, entered upon his official duties in 1827. He at once raised the standard of scholarship and gradually increased the scope of the instruction. He finally accomplished an entire reorganization of the University on the basis of the elective principle. In accordance with this "New System," the bachelor's degree was given for a three years' course and the master's degree for a four years' course. Graduate study and special study were both encouraged; and the sciences, in accordance with the spirit of the charter, were made prominent in the curriculum. This system was not put into operation until 1850, and was fully in force only until his retirement five years later. The increase in the scope of the curriculum during President Wayland's administration is clearly shown in the following list of subjects to which professors or instructors were assigned at the dates annexed: chemistry, physiology, and geology, 1834; moral and intellectual philosophy, 1834; belles-lettres, 1835; rhetoric, 1837; Hebrew literature, 1838; modern languages and literature, 1843; Greek, 1843; Latin, 1844; French, 1844; history and political economy, 1850; natural philosophy and civil engineering, 1850; chemistry applied to the arts, 1850; rhetoric and English literature, 1851; didactics (*i. e.*, pedagogy), 1851; analytical chemistry, 1854. The influence of President Wayland was felt, not in an increase of the number of students, but in an elevation of the intellectual and moral tone of the institution. Discipline, which had grown lax, was strictly enforced. During his administration the college grounds were laid out, and the Library was placed on a sound financial basis. Rhode Island Hall was erected in 1840 from sub-

scriptions by Rhode Island men and women. The permanent funds were increased to \$200,000. Dr. Wayland resigned the presidency in 1855, having won for the University, by his fame as a writer, thinker, and educational reformer, an enviable distinction both at home and abroad.

The fifth president of the University, the Reverend Barnas Sears, a graduate in the class of 1825, held office from 1855 until 1867, when he resigned the presidency to become general agent of the Peabody Education Fund. During his incumbency the only new subject added to the curriculum was physical geography, in 1864. Although the term of President Sears covered the financial crisis of 1857 and the Civil War, a notable increase was made both in the funds and in the number of students. A system of scholarships was established, and over \$220,000 was collected in subscriptions. The Chemical Laboratory was built in 1862. In the last class that entered under President Sears seventy-three students were enrolled. Three hundred graduates and students of Brown entered the Union service, 1861-5. Of these twenty-one laid down their lives.

The Reverend Alexis Caswell, a graduate in the class of 1822, was the sixth president of the University, his term covering the years 1868-72. Under his administration the department of physics was organized, and the endowment was increased from \$365,000 to a sum exceeding \$550,000.

Upon the resignation of Dr. Caswell, the Reverend Ezekiel Gilman Robinson, a graduate in the class of 1838, became president. Dr. Robinson's presidency extended over the seventeen years 1872-1889. This period was marked by a further increase in the attendance, the class of 1889 being graduated with a membership of fifty-six. The following subjects were added to the curriculum, or were emphasized by the appointment of separate instructors: special branches of agriculture, 1872; zoölogy and agriculture, 1874; physiology, 1874; botany, 1877; zoölogy and geology, 1878; elocution, 1880; astronomy, 1884; logic, 1886; history, 1888; political economy, 1888. The funds were increased to \$980,000, and important additions were made to the buildings. Rhode Island Hall was enlarged in 1875. The Library, the gift of John Carter Brown, of the class of 1816, was built in 1878, and Slater Hall, the gift of Horatio Nelson Slater, in 1879. Sayles Hall, the gift of William Francis Sayles, a memorial to his son, William Clark Sayles, a member of the class of 1878, was built in 1881. University Hall, which had been renovated

in 1850, was again renovated in 1883. Dr. Robinson recognized the fact that a great opportunity for a university existed at Brown, and, though he was not able fully to realize his purposes, he prepared the way for the great enlargement of the institution under his successor. Besides the addition of various courses, a beginning was made in systematic graduate instruction. Dr. Robinson resigned the presidency in 1889.

The eighth president of the University was the Reverend Elisha Benjamin Andrews, a graduate in the class of 1870. With his accession in 1889 the modern life of the University properly begins. In the year preceding his presidency three graduate students were enrolled; in the last year of his term of service the graduate students numbered 101, the total number of students for the same years being, respectively, 268 and 860. The officers of instruction for the corresponding years increased in number from twenty-two to seventy-three. All the old departments were expanded, and the number of departments was increased from sixteen in 1889-90 to twenty-five in 1897-8. The department of philosophy was enlarged by the addition of psychology and pedagogy. American and European history were assigned to separate professors, and political economy was made a department. The departments of Greek literature and history, Roman literature and history, English literature and language, Germanic languages and literatures, and Romance languages and literatures were reorganized and extended. Rhetoric and oratory were made an independent department. The departments of mathematics, mechanical engineering, astronomy, physics (including electrical engineering), chemistry, zoölogy, geology, and anthropology, and botany were extended in scope and thoroughness. New departments were formed for the subjects of social and political science including law, fine arts including the history of art and music, Indo-European philology, Biblical literature and history including the Semitic languages and New Testament Greek, mechanical drawing, civil engineering, comparative anatomy, military science and tactics, and bibliography.

The museum of fine arts was founded in 1889, and that of anthropology in 1891. The funds were increased to \$1,125,685, and important additions were made to the buildings and grounds. In 1891 Hope College was renovated; Wilson Hall, the bequest of George Francis Wilson, was built; the Ladd Observatory was presented to the University by the Honorable Herbert W. Ladd; and the Lyman

Gymnasium, named in honor of its principal donor, was erected. Maxcy Hall was built in 1895. Three buildings, known as the Howell, Messer, and Brown Street houses were also secured for dormitory purposes. The old playground of the University, now known as Lincoln Field, was graded and fitted up for ball-games and other athletic purposes in 1889. In 1898 a new athletic field was laid out on Camp Street, a mile and a half from the University. In 1891 the Grand Army of the Republic Fellowship Fund of \$10,000 was given to the University by the Rhode Island Department of that organization.

The Women's College was founded in October, 1891. At first only the privileges of University examinations and certificates of proficiency were granted. In June, 1892, all the College and University degrees and the graduate courses were opened to women. In November, 1897, the institution was accepted by the Corporation and officially designated the Women's College in Brown University. The immediate charge of this department, as of all others in the University, is in the hands of the Corporation. All instruction is given by members of the University Faculty. Pembroke Hall, which was built by the Rhode Island Society for the Collegiate Education of Women, was formally transferred to the University in October, 1897, and was accepted as the recitation hall of the Women's College.

In 1898 Dr. Andrews resigned the presidency to become Superintendent of Schools in Chicago. Dr. Benjamin Franklin Clarke, the senior member of the Faculty, who had served as president *pro tempore* during the absence of Dr. Andrews in Europe in 1896-7, was appointed president *ad interim*, and served during the academic year 1898-9.

The ninth president of the University is the Reverend William Herbert Perry Faunce, a graduate in the class of 1880, who entered upon his official duties on Commencement Day, 1899. At Commencement, 1900, announcement was made of an addition of over a million dollars to the endowment of the University. To this was added a year later a second million, including the endowment of the John Carter Brown Library. In 1900 the Slater Memorial Homestead was presented by Mrs. Horatio N. Slater, as a home for the students of the Women's College. In 1901 the president's house was erected at the corner of Hope and Manning streets. In 1902 the Van Wickle Administration Building was completed, this structure as well as the gates opposite being the bequest of Augustus Stout Van Wickle, of

the class of 1876. In 1904 Rockefeller Hall, the gift of John D. Rockefeller, was opened for the use of the Christian Association of the Brown Union, a social organization of students and alumni which was formed in that year. In the same year the Engineering Building, on Lincoln Field, Caswell Hall, a dormitory fronting on Thayer Street, and the Colgate Hoyt swimming-pool, the gift of Colgate Hoyt, were erected, and a great organ, the gift of a member of the class of 1893, was placed in Sayles Hall. In 1904 the John Nicholas Brown Gate was built as a memorial to the late John Nicholas Brown by his widow. In the same year the Carrie Tower, a clock tower, erected by Paul Bajnotti, of Turin, to the memory of his wife, Carrie Mathilde Brown, was presented to the University. Since 1901 an iron fence with brick and stone posts has been built around the front and the middle campus, each section having been contributed by or in memory of some class. The classes of 1872, 1884, and 1887 have contributed gates. In the summer of 1905 the exterior of University Hall was restored to its original appearance at the expense of Marsden J. Perry. In 1906 the Gymnasium of the Women's College was erected by Frank A. Sayles as a memorial to his sister, Martha Fessenden Sayles. In 1907 the Marston Field House, the gift of Edgar L. Marston, of New York, was erected on Andrews Field. In the same year Stephen O. Metcalf gave a lot of land adjoining the Women's College and had the grounds laid out at his expense. In 1910 Miller Hall, the residence hall of the Women's College, was erected through the generosity of a group of friends. It was named in memory of Mrs. Horace G. Miller, a benefactor of the College. In the same year the Goddard Gate on George Street was presented by Mrs. C. Oliver Iselin in memory of her father, Chancellor William Goddard. At Commencement, 1912, announcement was made of the completion of a million dollar subscription to the funds of the University. In June, 1913, the funds of the University, exclusive of those pertaining to the John Carter Brown Library, amounted to \$4,276,994.69.

The Library of the University dates from 1767, when the Reverend Morgan Edwards collected books for it in England. The collection was at first kept in University Hall. It was removed to Manning Hall upon the completion of that building in 1835, and in 1878 was transferred to the building on Waterman Street given by John Carter Brown, now used for the accommodation of department libraries. In April, 1909, the corner-stone of the John Hay Library was laid; the building was occupied at the opening of the academic year

1910-11. In 1842 the Library contained ten thousand volumes; in 1878, forty-eight thousand. The present number, including the books in the twenty department libraries, but not including the John Carter Brown Library, is two hundred and five thousand.

The Library Fund, established under President Wayland, has been supplemented by fifteen special funds, devoted to the departments of European history, United States history, medieval and church history, botany, the arts of design, biology, the classical languages and literatures, English literature, American poetry, political science, engineering, and general reference. Gifts of one thousand dollars each have been made to the Library by the classes of 1872, 1884, 1885, 1886, 1887, 1888, and 1892. In 1884, by the will of the Honorable Henry B. Anthony, the Library came into possession of the Harris Collection of American Poetry, numbering five thousand volumes, since increased to thirteen thousand, and provided with an endowment of \$5,000, the gift of Samuel C. Eastman, Esq. In 1901 there was presented to the University the John Carter Brown Library, the most complete collection in the world on the history of the two Americas down to the end of the eighteenth century; the sum of \$500,000 was also given as an endowment and the sum of \$150,000 for the erection of a building. The building was dedicated in May, 1904. In October, 1903, the University received by the gift of Marsden J. Perry the Sidney S. Rider Collection of manuscripts, books, and other material, forming a library of the first importance to students of the history of Rhode Island. In June, 1910, the Library received as a gift from the classes of 1899 and 1900 the Hammond Lamont Library of twenty-seven hundred volumes, chiefly in the field of eighteenth century English literature. In November, 1911, the University received by bequest the George Earl Church Collection of South Americana, numbering three thousand five hundred volumes. In May, 1912, the University received by the gift of the founder the Corthell Library of Engineering, numbering seven thousand volumes and pamphlets, accompanied with \$5,000 for its endowment. In October, 1912, the University received by the gift of Henry D. Sharpe, the Chambers Dante Collection of two thousand volumes and pamphlets. In July, 1913, the Library received from the family of the late Professor Lester F. Ward his scientific and sociological library of one thousand volumes, and, in the same month, from the Class of 1872, the linguistic library of the late Dr. Adrian Scott, of one thousand volumes.

At the close of the one hundred and forty-fifth Commencement

of the University, in 1913, there were enrolled the names of 7,583 graduates,—6,911 men and 672 women. Of this number, 6,711 had received the College or University first degree; 161, exclusive of the foregoing, had received advanced degrees; 69, not previously reckoned, had received the degree of Doctor of Medicine; 642 others had received honorary degrees. Of the entire number, 4,413, or 58 per cent, were living.

ADMISSION TO THE UNIVERSITY

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METHODS OF ADMISSION TO THE FRESHMAN CLASS ‡

ENTRANCE EXAMINATIONS CONDUCTED BY THE UNIVERSITY. Examinations for admission to the Freshman class are given by the University in September at the times and places indicated below. The University no longer offers entrance examinations in June; candidates desiring to be examined in June must take the examinations conducted under the supervision of the College Entrance Examination Board, for which see page 32. A candidate may, at his option, take all his examinations in June or in September, or he may take part in June and part in September. Before taking any examination conducted by the University, a candidate must present to the Registrar a letter of recommendation from the principal of his preparatory school and secure a card admitting him to the examination. This may be done by correspondence, provided that the written application and the recommendation are received not less than one week before the date of the first examination.

If a candidate offers subjects in excess of those required for admission, he may be examined in them at the times scheduled below and receive credit for them as college studies.

Any of these examinations may be taken one year before the candidate expects to enter college.

The order of the examinations in 1914 will be as follows:

TUESDAY, SEPTEMBER 15

Algebra, Sayles Hall, 8 a.m. to 10 a.m.

Plane Geometry, Sayles Hall, 10 a.m. to 12 m.

Two-year Latin, Sayles Hall, 1 p.m. to 3 p.m.

Elementary Latin, Sayles Hall, 1 p.m. to 3 p.m.

Advanced Latin, Sayles Hall, 3.30 p.m. to 5 p.m.

WEDNESDAY, SEPTEMBER 16

English A, Sayles Hall, 8 a.m. to 10 a.m.

English B, Sayles Hall, 10 a.m. to 12 m.

Chemistry, Sayles Hall, 1 p.m. to 3 p.m.

Ancient History, Sayles Hall, 3.30 p.m. to 5.30 p.m.

THURSDAY, SEPTEMBER 17

Elementary German (First year), Sayles Hall, 8 a.m. to 10 a.m.

Elementary German (Second year), Sayles Hall, 10 a.m. to 12 m.

Intermediate German, Sayles Hall, 1 p.m. to 3 p.m.

American History, Sayles Hall, 3.15 p.m. to 5.15 p.m.

Physiography, Sayles Hall, 5.30 p.m. to 7.30 p.m.

‡ For methods of making up entrance deficiencies see pages 68, 69.

FRIDAY, SEPTEMBER 18

Elementary French (First year), Sayles Hall, 8 a.m. to 10 a.m.

Elementary French (Second year), Sayles Hall, 10 a.m. to 12 m.

Intermediate French, Sayles Hall, 1 p.m. to 3 p.m.

Astronomy, Sayles Hall, 3.15 p.m. to 5.15 p.m.

English History, Sayles Hall, 5.30 p.m. to 7.30 p.m.

SATURDAY, SEPTEMBER 19

Plane Trigonometry, Sayles Hall, 8 a.m. to 10 a.m.

Solid Geometry, Sayles Hall, 10 a.m. to 12 m.

Advanced Algebra, Sayles Hall, 1 p.m. to 3 p.m.

Physics, Sayles Hall, 3.15 p.m. to 5.15 p.m.

Botany, Sayles Hall, 5.30 p.m. to 7.30 p.m.

MONDAY, SEPTEMBER 21

Elementary Greek, Sayles Hall, 8 a.m. to 10 a.m.

Advanced Greek, Sayles Hall, 10 a.m. to 11.30 a.m.

Medieval and Modern History, Sayles Hall, 1 p.m. to 3 p.m.

Spanish, Sayles Hall, 3.30 p.m. to 5.30 p.m.

ENTRANCE EXAMINATIONS CONDUCTED BY THE COLLEGE ENTRANCE EXAMINATION BOARD. Examinations conducted under the supervision of the College Entrance Examination Board are accepted in place of the corresponding examinations conducted by Brown University. In 1914 these examinations will be held June 15-20.

All applications for these examinations must be addressed to the Secretary of the College Entrance Examination Board, Post Office Sub-Station 84, New York, and must be made upon a blank form to be obtained from the Secretary of the Board. Applications for examination at points in the United States east of the Mississippi River, also at Minneapolis, St. Louis, and other points on the Mississippi River, must be received by the Secretary of the Board on or before Monday, June 1, 1914; applications for examination elsewhere in the United States or in Canada must be received on or before Monday, May 11, 1914; and applications for examinations at points outside the United States and Canada must be received on or before Monday, May 11, 1914. Applications received later than the dates named will be accepted when it is possible to arrange for the examinations of the candidates concerned, but only upon the payment of \$5 in addition to the regular fee.

The examination fee is \$5 for all candidates examined at points in the United States and Canada, and \$15 for all candidates examined at points outside of the United States and Canada. The fee (which cannot be accepted in advance of the application) should be remitted by postal order, express order, or draft on New York, to the order of the College Entrance Examination Board.

A list of the places at which examinations are to be held by the Board in June, 1914, will be published about March 1. Requests that the examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1.

ADMISSION BY CERTIFICATE. In place of examinations, certificates are accepted from any school which has the privilege of issuing certificates to Brown University.

Principals of schools in New England who desire the certificate privilege for Brown University, or for any other college which is a member of the New England College Entrance Certificate Board, should address the Secretary of the Board, Professor Frank W. Nicolson, Wesleyan University, Middletown, Conn., who will furnish the necessary application blanks. These blanks must be returned to him before April 1 of the year for which the certificate privilege is desired.

Principals of schools situated outside of New England who desire the certificate privilege must make application to the Registrar of the University before May 1, and must furnish satisfactory evidence that the course of study in the school meets the requirements for admission. Blank forms for this purpose will be supplied on request. Certificates from the New York Board of Regents are accepted for the specified subjects so far as they coincide with the entrance requirements of Brown University.

Certificates are accepted for admission to the Freshman class only, not for admission to advanced standing. If any candidate offers subjects in excess of those required for admission, he may be examined in them at the times indicated on pages 31, 32, and receive credit for them as college studies.

Blank forms for the certification of candidates may be obtained from the Registrar by the principals of schools having the privilege of certification. These forms should be filled out and returned to him by July 1. When a student has attended more than one school, a letter of recommendation from the principal of the school last attended must accompany the certificate.

UNITS OF ENTRANCE REQUIREMENTS. A unit in any subject represents a year's study, constituting approximately a quarter of a full year's work in a secondary school.

This statement is designed to afford a standard of measurement for the work done in secondary schools. It takes the four-year high school course as a basis, and assumes that the length of the school year is from thirty-six to forty weeks, that a period is from forty to sixty minutes in length, and that the study is pursued for four or five periods a week; but under ordinary circumstances, a satisfactory year's work in any subject cannot be accomplished in less than one hundred and twenty sixty-minute periods or their equivalent. Schools organized on any other than a four-year basis can, nevertheless, estimate their work in terms of this unit.

SUBJECTS REGULARLY ACCEPTED FOR ADMISSION.

	<i>Units</i>		<i>Units</i>
English <i>a</i>	2	Intermediate French	1
English <i>b</i>	1	Elementary German (First year)	1
Ancient History	1	Elementary German (Second year)	1
Medieval and Modern European History	1	Intermediate German	1
English History	1	Spanish	2
American History and Civil Government	1	Algebra	1½
Two-year Latin	2	Advanced Algebra (not for Sc.B.)	½
Elementary Latin	3	Plane Geometry	1
Advanced Latin	1	Solid Geometry	½
Elementary Greek	2	Plane Trigonometry (not for Sc.B.)	½
Advanced Greek	1	Physics	1
Elementary French (First year)	1	Chemistry	1
Elementary French (Second year)	1	Botany	1
		Physiography	1
		Astronomy (for Sc.B. only)	1

UNLISTED SUBJECTS. With the approval of the Committee on Registration and Attendance, subjects not on the regular list, but included in the curriculum of an approved school, may be presented as elective subjects, provided: (1) That the candidate is a graduate of the school on a four-year course. (2) That the grade for certification is the same as for the listed subjects. (3) That the aggregate value of such subjects does not exceed two units.

ENTRANCE REQUIREMENTS FOR THE VARIOUS DEGREES

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS. Candidates must present fourteen and one-half units as follows: three in English; one and one-half in Algebra; one in Plane Geometry; one in Ancient History; five in languages other than English (including the elementary and advanced requirement in either Latin or Greek); and three in elective subjects.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF PHILOSOPHY. Candidates must present fourteen and one-half units as follows: three in English; one and one-half in Algebra; one in Plane Geometry; one in History; three in languages other than English (including one in either French or German); and five in elective subjects.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE.‡ Candidates must present fourteen units as follows: three in English; one and one-half in Algebra; one in Plane Geometry; one-half in Solid Geometry; one in History; four (one of which must be in Chemistry or Physics) from

‡ In Brown University the Degree of Bachelor of Science is given only for engineering courses. The work is mainly technical and offers no freedom of election.

the following subjects: French, German, Spanish, Chemistry, Physics; and three in elective subjects.

ENTRANCE REQUIREMENTS IN THE SEVERAL SUBJECTS‡

ENGLISH. *Three units.* Preparation in English has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

GRAMMAR AND COMPOSITION. The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles governing punctuation, diction, paragraphs, and the whole composition should be carefully studied; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise narration, description, and easy exposition and argument based upon simple outlines. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

LITERATURE. In the pursuit of the second object the student is required to read certain books chosen from two lists, headed respectively *Reading* and *Study*. In connection with both lists the student should be trained in reading aloud, and should be encouraged to commit to memory some of the more notable passages both in verse and in prose.

FOR STUDENTS ENTERING IN 1914

Reading

The aim of this part of the requirement is to foster in the student the habit of intelligent reading and to develop a taste for good literature. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and the charm of what he reads. The books are arranged in the following groups, from which at least ten units are to be selected, two from each group:

‡ The following statements are condensations of those in the Report of the College Entrance Examination Board. Teachers are advised to consult this report.

1. The *Old Testament*, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the *Odyssey*, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the *Iliad*, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; the *Aeneid*. The *Odyssey*, *Iliad*, and *Aeneid* should be read in English translations of recognized literary excellence.

For any unit of this group a unit from any other group may be substituted.

2. Shakspeare: *Merchant of Venice*; *Midsummer Night's Dream*; *As You Like It*; *Twelfth Night*; *Henry the Fifth*; *Julius Caesar*.

3. Defoe: *Robinson Crusoe*, Part I; Goldsmith: *The Vicar of Wakefield*; Scott: *Ivanhoe* or *Quentin Durward*; Hawthorne: *The House of the Seven Gables*; Dickens: *David Copperfield* or *A Tale of Two Cities*; Thackeray: *Henry Esmond*; Mrs. Gaskell: *Cranford*; George Eliot: *Silas Marner*; Stevenson: *Treasure Island*.

4. Bunyan: *Pilgrim's Progress*, Part I; *The Sir Roger de Coverley Papers* in *The Spectator*; Franklin: *Autobiography* (condensed); Irving: *Sketch Book*; Macaulay: *Essays on Lord Clive and Warren Hastings*; Thackeray: *English Humourists*; Selections from Lincoln, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, and the Letter to Horace Greeley, with a brief memoir or estimate of Lincoln; Parkman: *The Oregon Trail*; either Thoreau: *Walden*, or Huxley: *Autobiography* and selections from *Lay Sermons*, including the addresses on Improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; Stevenson: *An Inland Voyage* and *Travels with a Donkey*.

5. Palgrave: *Golden Treasury* (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Gray: *Elegy in a Country Churchyard*, and Goldsmith: *The Deserted Village*; Coleridge: *The Ancient Mariner*, and Lowell: *The Vision of Sir Launfal*; Scott: *The Lady of the Lake*; Byron: *Childe Harold*, Canto IV, and *The Prisoner of Chillon*; Palgrave: *Golden Treasury* (First Series), Book IV, with especial attention to Wordsworth, Keats, and Shelley; Poe: *The Raven*; Longfellow: *The Courtship of Miles Standish*, and Whittier: *Snow-Bound*; Macaulay: *Lays of Ancient Rome*, and Arnold: *Sohrab and Rustum*; Tennyson: *Gareth and Lynette*, *Lancelot and Elaine*, and *The Passing of Arthur*; Browning: *Cavalier Tunes*, *The Lost Leader*, *How They Brought the Good News from Ghent to Aix*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *An Incident of the French Camp*, *Hervé Riel*, *Pheidippides*, *My Last Duchess*, *Up at a Villa—Down in the City*.

Study

This part of the requirement is intended as a natural and logical continuation of the student's earlier reading. Greater stress is laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. For this close reading are provided a play, a group of poems, an oration, and an essay, as follows:

Shakspere: *Macbeth*; Milton: *L'Allegro, Il Penseroso*, and *Comus*; Burke: *Speech on Conciliation with America*, or Washington: *Farewell Address* and Webster: *First Bunker Hill Oration*; Macaulay: *Life of Johnson*, or Carlyle: *Essay on Burns*.

EXAMINATION. The examination for 1914 will be divided into two parts, the first of which (English *a*, two units) may be taken as a preliminary, the second (English *b*, one unit) as a final.

The first part of the examination will be upon ten units chosen, in accordance with the plan described earlier, from the lists headed *Reading*; it will include also questions upon grammar and the simpler principles of rhetoric, and a short composition upon some topic drawn from the student's general knowledge or experience. On the books prescribed for reading, the examination will usually consist of the writing of short paragraphs on several topics which the candidate may choose out of a considerable number. These topics will involve such knowledge and appreciation of plot, character-development, and other qualities of style and treatment as may be fairly expected of boys and girls. In grammar and rhetoric, the candidate will be asked to construe sentences, to parse individual words, and to correct mistakes in usage.

The second part of the examination will be upon the books prescribed for study. It will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

The requirements for 1914 are the same as those of the College Entrance Examination Board in English.

FOR STUDENTS ENTERING 1915 TO 1919

Reading

The aim of this part of the requirement is to foster in the student the habit of intelligent reading and to develop a taste for good literature. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and the charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under Group I.

GROUP I. CLASSICS IN TRANSLATION. The *Old Testament*, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the *Odyssey*, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the *Iliad*, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; the *Aeneid*. The *Odyssey*, *Iliad*, and *Aeneid* should be read in English translations of recognized literary excellence.

For any selection from this group a selection from any other group may be substituted.

GROUP II. DRAMA, Shakspeare: *A Midsummer Night's Dream*; *The Merchant of Venice*; *As You Like It*; *Twelfth Night*; *The Tempest*; *Romeo and Juliet*; *King John*; *Richard the Second*; *Richard the Third*; *Henry the Fifth*; *Coriolanus*; *Julius Caesar*; ‡ *Macbeth*; ‡ *Hamlet*. ‡

GROUP III. PROSE FICTION. Malory: *Morte d'Arthur* (about 100 pages); Bunyan: *Pilgrim's Progress*, Part I; Swift: *Gulliver's Travels* (voyages to Lilliput and Brobdingnag); Defoe: *Robinson Crusoe*, Part I; Goldsmith: *The Vicar of Wakefield*; Frances Burney: *Evelina*; Scott's Novels, any one; Jane Austen's Novels, any one; Maria Edgeworth: *Castle Rackrent* or *The Absentee*; Dickens's Novels, any one; Thackeray's Novels, any one; George Eliot's Novels, any one; Mrs. Gaskell: *Cranford*; Kingsley: *Westward Ho!* or *Hereward, the Wake*; Reade: *The Cloister and the Hearth*; Blackmore: *Lorna Doone*; Hughes: *Tom Brown's School Days*; Stevenson: *Treasure Island*, or *Kidnapped*, or *The Master of Ballantrae*; Cooper's Novels, any one; Poe: *Selected Tales*; Hawthorne: *The House of the Seven Gables*, or *Twice Told Tales*, or *Mosses from an Old Manse*; a collection of short stories by various standard writers.

GROUP IV. ESSAYS, BIOGRAPHY, ETC. Addison and Steele: *The Sir Roger de Coverley Papers* or selections from *The Tatler* and *The Spectator* (about 200 pages); Boswell: Selections from the *Life of Johnson* (about 200 pages); Franklin: *Autobiography*; Irving: Selections from the *Sketch Book* (about 200 pages), or *Life of Goldsmith*; Southey: *Life of Nelson*; Lamb: Selections from the *Essays of Elia* (about 100 pages); Lockhart: Selections from the *Life of Scott* (about 200 pages); Thackeray: Lectures on *Swift*, *Addison*, and *Steele* in the *English Humourists*; Macaulay: Any one of the following essays: *Lord Clive*, *Warren Hastings*, *Milton*, *Addison*, *Goldsmith*, *Frederic the Great*, *Madame d'Arblay*; Trevelyan: Selections from the *Life of Macaulay* (about 200 pages); Ruskin: *Sesame and Lilies* or selections (about 150 pages); Dana: *Two Years before the Mast*; Lincoln: Selections, including at least the

‡ If not chosen under *Study*.

two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley, together with a brief memoir or estimate of Lincoln; Parkman: *The Oregon Trail*; Thoreau: *Walden*; Lowell: Selected Essays (about 150 pages); Holmes: *The Autocrat of the Breakfast Table*; Stevenson: *An Inland Voyage* and *Travels with a Donkey*; Huxley: *Autobiography* and selections from *Lay Sermons*, including the addresses on Improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; a collection of Essays by Bacon, Lamb, De Quincey, Hazlitt, Emerson, and later writers; a collection of Letters by various standard writers.

GROUP V. POETRY. Palgrave: *Golden Treasury* (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave: *Golden Treasury* (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley (if not chosen under *Study*); Goldsmith: *The Traveller* and *The Deserted Village*; Pope: *The Rape of the Lock*; a collection of English and Scottish ballads, as, for example, some *Robin Hood* ballads, *The Battle of Otterburn*, *King Estmere*, *Young Beichan*, *Bewick and Grahame*, *Sir Patrick Spens*, and a selection from later ballads; Coleridge: *The Ancient Mariner*, *Christabel*, and *Kubla Khan*; Byron: *Childe Harold*, Canto III or IV, and *The Prisoner of Chillon*; Scott: *The Lady of the Lake* or *Marmion*; Macaulay: *The Lays of Ancient Rome*, *The Battle of Naseby*, *The Armada*, *Ivry*; Tennyson: *The Princess*, or *Gareth and Lynette*, *Lancelot and Elaine*, and *The Passing of Arthur*; Browning: *Cavalier Tunes*, *The Lost Leader*, *How They Brought the Good News from Ghent to Aix*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *An Incident of the French Camp*, *Hervé Riel*, *Pheidippides*, *My Last Duchess*, *Up at a Villa—Down in the City*, *The Italian in England*, *The Patriot*, *The Pied Piper*, “*De Gustibus*”—, *Instans Tyrannus*; Arnold: *Sohrab and Rustum* and *The Forsaken Merman*; selections from American poetry, with especial attention to Poe, Lowell, Longfellow, and Whittier.

Study

This part of the requirement is intended as a natural and logical continuation of the student's earlier reading. Greater stress is laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. For this close reading the books are arranged in four groups, from each of which one selection is to be made.

GROUP I. DRAMA. Shakspere: *Julius Caesar*; *Macbeth*; *Hamlet*.

GROUP II. POETRY. Milton: *L'Allegro*, *Il Penseroso*, and either *Comus* or *Lycidas*; Tennyson: *The Coming of Arthur*, *The Holy Grail*, and *The Passing of Arthur*; the selections from Wordsworth, Keats, and Shelley in Book IV of Palgrave's *Golden Treasury* (First Series).

GROUP III. ORATORY. Burke : *Speech on Conciliation with America* ; Macaulay : *Speech on Copyright*, and Lincoln : *Speech at Cooper Union* ; Washington : *Farewell Address*, and Webster : *First Bunker Hill Oration*.

GROUP IV. ESSAYS. Carlyle : *Essay on Burns*, with a selection from Burns's Poems ; Macaulay : *Life of Johnson* ; Emerson : *Essay on Manners*.

EXAMINATION. After 1914 the examination will be divided into two parts, one of which will be on grammar and composition, and the other on literature.

In grammar and composition, the candidate may be asked to construe sentences, to parse individual words, and to correct mistakes in usage. The main test in composition will consist of one or more essays, developing a theme through several paragraphs ; the subjects will be drawn from the books read, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose several subjects, perhaps eight or ten, will be indicated, from which the candidate may make his own selections.

The examination in literature will include : (1) General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined under *Reading* above. The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared ; but this list will not be made the basis of detailed questions. (2) A test on the books prescribed for study. This will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

MATHEMATICS. ALGEBRA. *One and one-half units*. The requirement in Algebra covers the work through equations of the second degree, including the following subjects : the four fundamental operations for rational algebraic expressions ; factoring, determination of highest common factor and lowest common multiple by factoring ; fractions, including complex fractions, and ratio and proportion ; linear equations, both numerical and literal, containing one or more unknown quantities ; problems depending on linear equations ; radicals, including the extraction of the square root of polynomials and of numbers ; exponents, including the fractional and negative ; quadratic equations, both numerical and literal ; simple cases of equations with one or more unknown quantities, that can be solved by the methods of linear or quadratic equations ; the binomial theorem for positive integral exponents ; the formulae

for the n th term, and the sum of the terms, of arithmetical and geometric progressions, with applications.

It is assumed that pupils will be required throughout the course to solve numerous problems which involve putting questions into equations. Some of these problems should be chosen from mensuration, from physics, and from commercial life. The use of graphical methods and illustrations, particularly in connection with the solution of equations, is also expected.

This requirement is the same as that of the College Entrance Examination Board in Mathematics *a* (i and ii).

PLANE GEOMETRY. *One unit.* The requirement in Plane Geometry covers the usual theorems and constructions of good text-books, including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons and the measurement of the circle; the solution of numerous original exercises, including loci problems; applications to the mensuration of lines and plane surfaces.

Teachers of Geometry should lay stress on accuracy of statement and elegance of form as well as on clear and strict reasoning. Mere memorizing should be avoided. Special care should be taken that in the proof of a proposition no lines be drawn unless their construction is proved to be possible.

This requirement is the same as that of the College Entrance Examination Board in Mathematics *c*.

SOLID GEOMETRY. *One-half unit.* The requirement in Solid Geometry covers the usual theorems and constructions of good text-books, including the relations of planes and lines in space; the properties and measurements of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle; the solution of numerous original exercises, including loci problems; applications to the mensuration of surfaces and solids.

This requirement is the same as that of the College Entrance Examination Board in Mathematics *d*.

PLANE TRIGONOMETRY. *One-half unit.* The requirement in Plane Trigonometry includes definitions and relations of the six trigonometric functions as ratios; circular measurement of angles; proofs of principal formulae, in particular for the sine, cosine, and tangent of the sum and difference of two angles, of the double angle and half angle, the product expressions for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulae; the solution of trigonometric equations of a simple character; the theory and use of logarithms (without the introduction of work involving infinite series); the solution of right and oblique triangles; practical applications.

This requirement is the same as that of the College Entrance Examination Board in Mathematics *f*.

ADVANCED ALGEBRA. *One-half unit.* The requirement in Advanced Algebra includes permutations and combinations, limited to simple cases; complex numbers, with graphical representation of sums and differences; determinants, chiefly of the second, third, and fourth orders, including the use of minors and the solution of linear equations; numerical equations of higher degree, and so much of the theory of equations, with graphical methods, as is necessary for their treatment, including Descartes's rule of signs and Horner's method, but not Sturm's functions or multiple roots. This requirement is the same as that of the College Entrance Examination Board in Mathematics *b*.

LATIN. ‡ **ELEMENTARY LATIN.** *Three units.* The reading without the prescription of particular authors and works shall not be less in amount than Caesar, *Gallic War*, Books I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias. The reading shall be selected from the following authors and works: Caesar, *Gallic War* and *Civil War*, and Nepos, *Lives*; Cicero, orations, letters, and *De Senectute*, and Sallust, *Catiline* and *Jugurthine War*.

Candidates will be examined in translation at sight of passages from Caesar and Cicero. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above. They will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias.

The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose.

The words, constructions, and range of ideas called for in the examination in composition will be such as are common in the reading of the years covered by the examination.

This requirement is the same as that of the College Entrance Examination Board in Latin *N R 1*, *N R 2*, *N R 3*, *N R 4*.

ADVANCED LATIN. *One unit.* The reading shall not be less in amount than Vergil, *Aeneid*, Books I-VI. This reading shall be selected from Vergil, *Bucolics*, *Georgics*, and *Aeneid*, and Ovid, *Metamorphoses*, *Fasti*, and *Tristia*.

Candidates will be examined in translation at sight of passages from Vergil and Ovid. They will be examined also upon the following prescribed reading: Vergil, *Aeneid*, Books I, II, and either IV or VI, at the option of the candidate. The examination will include questions on subject-matter and meter.

This requirement is the same as that of the College Entrance Examination Board in Latin *N R 5*.

‡ For students presenting by examination the full four-unit requirement in Latin, the examinations of the College Entrance Examination Board in Latin 1, 2, 4, 5 will be accepted.

TWO-YEAR LATIN. *Two units.* The reading shall not be less in amount than Caesar, *Gallic War*, Books I-IV, and should be selected by the schools from Caesar, *Gallic War* and *Civil War*, and Nepos, *Lives*. Candidates will be examined in translation at sight of passages from the above authors, also in grammar and composition.

The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose.

The words, constructions, and range of ideas called for in the examination in composition will be such as are common in the reading of the years covered by the examination.

This requirement is practically the same as that of the College Entrance Examination Board in Latin *N R 1*, *N R 2*, *N R 3*.

GREEK. ELEMENTARY GREEK. *Two units.* The requirement in Elementary Greek includes: (1) Xenophon's *Anabasis*, Books I-IV, with attention not only to language, but to subject-matter as well; (2) grammar, including a familiar knowledge of inflection, word-formation, and ordinary syntax. This will be tested by: (a) questions on a passage from the *Anabasis*; (b) translation into Greek, with accents, of simple English sentences.

This requirement is the same as that of the College Entrance Examination Board in Greek *a* (i and ii), *b*, and *g*.

ADVANCED GREEK. *One unit.* The requirement in advanced Greek includes: (1) Three books of Homer's *Iliad* or *Odyssey*, with questions on meter, Homeric dialect, etc., or (upon request four weeks in advance of the examination) an equivalent amount of a prose author; (2) translation at sight of simple Attic prose or Homer; (3) translation into Greek, with accents, of a continuous passage of English narrative, based upon material similar to the *Anabasis*.

This requirement is the same as that of the College Entrance Examination Board in Greek *f* and *ch*.

FRENCH. ELEMENTARY FRENCH. FIRST YEAR. *One unit.* At the end of the first year the pupil should be able to pronounce French accurately, to translate at sight very easy French prose, to put into French very simple English sentences taken from the language of every-day life or based upon the portion of the French text read, and to answer questions on the rudiments of the grammar as defined below.

During the first year the work should comprise: Careful drill in pronunciation; the rudiments of grammar, including the inflection of the regular and the more common irregular verbs, the plural nouns, the inflection of adjectives, participles, and pronouns; the use of personal pronouns, common adverbs, prepositions, and conjunctions; the order of words in the sentence, and the elementary rules of syntax, including the simpler uses of the conditional

and subjunctive ; abundant easy exercises, designed not only to fix in the memory the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression ; the reading of from 100 to 175 duodecimo pages of graduated texts, with constant practice in translating into French easy variations of the sentences read (the teacher giving the English), and in reproducing from memory sentences previously read ; writing French from dictation.

As no examination in first-year French is given by the College Entrance Examination Board, the examination in this subject must be taken in September at Brown University ; see pages 31, 32.

ELEMENTARY FRENCH. SECOND YEAR. *One unit.* At the end of the second year the pupil should be able to read and translate at sight easy French prose, to put into French simple English sentences taken from the language of everyday life, or based upon the portion of the French text read, to write from dictation simple French sentences, and to answer questions on the rudiments of the grammar as defined above with the additions made below.

During the second year the work should comprise : The reading of from 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches ; constant practice, as in the previous year, in translating into French easy variations upon the texts read ; frequent abstracts, sometimes oral and sometimes written, of portions of the text already read ; writing French from dictation ; continued drill upon the rudiments of grammar, with constant application in the construction of sentences ; mastery of the forms and use of pronouns, pronominal adjectives, and of all but the rare irregular verb forms.

Suitable texts for the second year are : About's *Le roi des montagnes*, Bruno's *Le tour de la France*, Daudet's easier short tales, La Bédollière's *La Mère Michel et son chat*, Erckmann-Chatrian's stories, Foa's *Contes biographiques* and *Le petit Robinson de Paris*, Foncin's *Le pays de France*, Labiche and Martin's *La poudre aux yeux* and *Le voyage de M. Perrichon*, Legouvé and Labiche's *La cigale chez les fourmis*, Malot's *Sans famille*, Mairêt's *La tâche du petit Pierre*, Mérimée's *Colomba*, extracts from Michelet, Sarcey's *Le siège de Paris*, Verne's stories.

The combined requirement in first and second year Elementary French is the same as that of the College Entrance Examination Board in French a.

INTERMEDIATE FRENCH. *One unit.* At the end of the intermediate course the pupil should be able to read at sight ordinary French prose or simple poetry, to translate into French a connected passage of English based on the text read, and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

The work should comprise the reading of from 400 to 600 pages of French of ordinary difficulty, a portion to be in the dramatic form ; constant practice in giving French paraphrases, abstracts, or reproductions from memory of

selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

Suitable texts are: About's stories, Augier and Sandeau's *Le gendre de M. Poirier*, Béranger's poems, Corneille's *Le Cid* and *Horace*, Coppée's poems, Daudet's *La Belle-Nivernaise*, La Brète's *Mon oncle et mon curé*, Madame de Sévigné's letters, Hugo's *Hernani* and *La chute*, Labiche's plays, Loti's *Pêcheur d'Islande*, Mignet's historical writings, Molière's *L'avare* and *Le bourgeois gentilhomme*, Racine's *Athalie*, *Andromaque*, and *Esther*, George Sand's plays and stories, Sandeau's *Mademoiselle de la Seiglière*, Scribe's plays, Thierry's *Récits des temps mérovingiens*, Thiers's *L'expédition de Bonaparte en Egypte*, de Vigny's *La canne de jône*, Voltaire's historical writings.

GERMAN.‡ ELEMENTARY GERMAN. FIRST YEAR. *One unit.* At the end of the first year the pupil should be able to read at sight, and to translate, a passage of very easy dialogue or narrative prose, help being given upon unusual words and constructions, to put into German simple English sentences taken from the language of every-day life or based upon the text given for translation, and to answer questions upon the rudiments of the grammar, as defined below.

During the first year the work should comprise: Careful drill upon pronunciation; the memorizing and frequent repetition of easy colloquial sentences; drill upon the rudiments of grammar, that is, upon the inflection of the articles, of such nouns as belong to the language of every-day life, of adjectives, pronouns, weak verbs, and the more usual strong verbs; also upon the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word-order; abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; the reading of from 75 to 100 pages of graduated texts from a reader, with constant practice in translating into German easy variations upon sentences selected from the reading lesson (the teacher giving the English), and in the reproduction from memory of sentences previously read.

As no examination in first year German is given by the College Entrance Examination Board, the examination in this subject must be taken in September at Brown University; see pages 31, 32.

ELEMENTARY GERMAN. SECOND YEAR. *One unit.* At the end of the second year the pupil should be able to read at sight, and to translate, a passage of easy dialogue or narrative prose, help being given on unusual words and constructions, to put into German short English sentences taken from the language of every-day life or based upon the text given for translation, to write from dictation simple German sentences, and to answer questions upon the rudi-

‡ An oral test forms a part of all entrance examinations in German.

ments of grammar, as defined in the requirement for the first year, with the additions made below.

During the second year the work should comprise : The reading of from 150 to 200 pages of literature in the form of easy stories and plays; accompanying practice in the translation into German of easy variations upon the matter read and also in the offhand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy selected passages; writing German from dictation; continued drill upon the rudiments of the grammar and mastery of the adjective declensions, the passive, and word-order, directed to the ends of enabling the pupil to use his knowledge with facility in the formation of sentences and to state his knowledge correctly in the technical language of grammar.

Stories suitable for the elementary course can be selected from the following list : Andersen's *Märchen* and *Bilderbuch ohne Bilder*; Arnold's *Fritz auf Ferien*; Baumbach's *Die Nonna* and *Der Schwiegersohn*; Gerstäcker's *Germelshausen*; Heyse's *L'Arrabbiata*, *Das Mädchen von Treppi*, and *Anfang und Ende*; Hillern's *Höher als die Kirche*; Jensen's *Die braune Erica*; Leander's *Träumereien* and *Kleine Geschichten*; Seidel's *Märchen*; Stökl's *Unter dem Christbaum*; Storm's *Immensee* and *Geschichten aus der Tonne*; Zschokke's *Der zerbrochene Krug*.

Good plays adapted to the elementary course are much harder to find than good stories. Five-act plays are too long. They require more time than it is advisable to devote to any one text. Among shorter plays the best available are perhaps Benedix's *Der Prozess*, *Der Weiberfeind*, and *Günstige Vorzeichen*; Elz's *Er ist nicht eifersüchtig*; Wichert's *An der Majorsecke*; Wilhelm's *Einer muss heiraten*. It is recommended, however, that not more than one of these plays be read. The narrative style should predominate. A good selection of reading matter for the second year would be Andersen's *Märchen*, or *Bilderbuch*, or Leander's *Träumereien*, to the extent of about forty pages. After that, such a story as *Das kalte Herze* or *Der zerbrochene Krug*; then *Höher als die Kirche* or *Immensee*; next a good story by Heyse, Baumbach, or Seidel; lastly *Der Prozess*.

The combined requirement in first and second year elementary German is the same as that of the College Entrance Examination Board in German a.

INTERMEDIATE GERMAN. *One unit.* At the end of the intermediate course the pupil should be able to read at sight German prose of ordinary difficulty, whether recent or classical; to put into German a connected passage of simple English, paraphrased from a given text in German; to answer any grammatical questions relating to usual forms and essential principles of the language, including syntax and word-formation, and to translate and explain a passage of classical literature taken from some text previously studied.

The work should comprise, in addition to the elementary course, the reading of about 400 pages of moderately difficult prose and poetry, with constant practice in giving, sometimes orally and sometimes in writing, paraphrases,

abstracts, or reproductions from memory of selected portions of the matter read; writing connected German passages from dictation; also grammatical drill upon the less usual strong verbs, the use of articles, cases, auxiliaries of all kinds, tenses and modes (with special reference to the infinitive and subjunctive), and likewise upon word-order and word-formation.

Suitable reading matter for the third year can be selected from such works as the following: Ebner-Eschenbach's *Die Freiherren von Gemperlein*; Freytag's *Die Journalisten* and *Bilder aus der deutschen Vergangenheit*, — for example, *Karl der Grosse*, *Aus den Kreuzzügen*, *Doktor Luther*, *Aus dem Staat Friedrichs des Grossen*; Fouqué's *Undine*; Gerstäcker's *Irrfahrten*; Goethe's *Hermann und Dorothea* and *Iphigenie*; Heine's poems and *Reisebilder*; Hoffmann's *Historische Erzählungen*; Lessing's *Minna von Barnhelm*; Meyer's *Gustav Adolf's Page*; Moser's *Der Bibliothekar*; Riehl's *Novellen*, — for example, *Burg Neideck*, *Der Fluch der Schönheit*, *Der stumme Ratsherr*, *Das Spielmannskind*; Rosegger's *Waldheimat*; Schiller's *Der Neffe als Onkel*, *Der Geisterseher*, *Wilhelm Tell*, *Die Jungfrau von Orleans*, *Das Lied von der Glocke*, *Bal-laden*; Scheffel's *Der Trompeter von Säckingen*; Wildenbruch's *Das edle Blut*; a good anthology of German verse (such as Hatfield's or von Klenze's).

This requirement is the same as that of the College Entrance Examination Board in German *b*.

SPANISH. ELEMENTARY SPANISH. *Two units.* At the end of the elementary course the pupil should be able to pronounce Spanish accurately, to read at sight easy Spanish prose, to put into Spanish simple English sentences taken from the language of every-day life or based upon a portion of the Spanish text read, and to answer questions on the rudiments of the grammar, as defined below.

During the first year the work should comprise: Careful drill in pronunciation; the rudiments of grammar, including the conjugation of the more regular and the more common irregular verbs, the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax; exercises containing illustrations of the principles of grammar; the reading and accurate rendering into good English of from 100 to 175 duodecimo pages of graduated texts, with translation into Spanish of easy variations of the sentences read; writing Spanish from dictation.

During the second year the work should comprise: the reading of from 250 to 400 pages of modern prose from different authors; practice in translating Spanish into English, and English variations of the text into Spanish; continued study of the elements of grammar and syntax; mastery of all but the rare irregular verb forms and of the simpler uses of the modes and tenses; writing Spanish from dictation; memorizing of easy short poems.

Suitable texts for the second year are: Valera's *El Pájaro verde*; Alarcón's *El final de Norma*; Valdès's *José*; Galdós's *Doña Perfecta*, *Marianela*; Padre Isla's version of *Gil Blas*; Carrion and Aza's *Zaragüeta*.

HISTORY. ANCIENT HISTORY. *One unit.* Special attention to Greek and Roman history, but including also a short introductory study of the more ancient nations and the chief events of the early Middle Ages, down to the death of Charlemagne (814).

MEDIEVAL AND MODERN EUROPEAN HISTORY. *One unit.* From the death of Charlemagne to the present time.

ENGLISH HISTORY. *One unit.*

AMERICAN HISTORY AND CIVIL GOVERNMENT. *One unit.*

The examinations in history will be so framed as to require comparison and judgment on the pupil's part rather than mere memory. The examinations will presuppose the use of good text-books, at least 600 duodecimo pages of collateral reading, and practice in written work. Historical novels, plays, or poems will not be accepted in fulfilment of the requirement of collateral reading. The methods of instruction which the examinations in History and Civil Government presuppose are substantially identical with those set forth in *A History Syllabus for Secondary Schools* (D. C. Heath & Co.); and the references for collateral reading given in that manual may be taken as indications of the kind of collateral reading that should be done.

These requirements are the same as those of the College Entrance Examination Board in History *a, b, c, d.*

PHYSICS. *One unit.* Preparation in Physics should include: (1) The study of one standard text-book, for the purpose of obtaining a connected and comprehensive view of the subject. The student should be given opportunity and encouragement to consult other scientific literature. (2) Instruction by lecture-table demonstrations, to be used mainly for illustration of the facts and phenomena of physics in their qualitative aspects and in their practical applications. (3) Individual laboratory work, consisting of experiments requiring at least the time of thirty double periods. The experiments performed by each student should number at least thirty. The work should be so distributed as to give a wide range of observation and practice. The aim of laboratory work should be to supplement the pupil's fund of concrete knowledge and to cultivate his power of accurate observation and clearness of thought and expression. The exercises should be chosen with a view to furnishing forceful illustrations of fundamental principles and their practical applications. They should be such as yield results capable of ready interpretation, obviously in conformity with theory, and free from the disguise of unintelligible units. Slovenly work should not be tolerated, and the effort for precision should not lead to the use of apparatus or processes so complicated as to obscure the principle involved.

Throughout the whole course special attention should be paid to the common illustrations of physical laws and to their industrial applications.

In the solution of numerical problems, the student should be encouraged to make use of the simple principles of algebra and geometry to reduce the difficulties of solution, but unnecessary mathematical difficulties should be avoided, and care should be exercised to prevent the student from losing sight of the concrete facts in the manipulation of symbols.

Every candidate must present as a part of the examination, a note-book, certified by the teacher, containing in the candidate's own language a description of his laboratory exercises, with a careful record of the steps, observations, and results of each exercise. The note-book must afford clear evidence of the pupil's ability to make accurate observations and to draw direct conclusions.

This requirement is the same as that of the College Entrance Examination Board in Physics.

CHEMISTRY. *One unit.* The following outline includes only the indispensable topics which must be studied in the class-room and laboratory. The material is, for the most part, common to all elementary text-books and laboratory manuals. The order of presentation will naturally be determined by the teacher.

OUTLINE. The chief physical and chemical characteristics, the preparation and the recognition of the following elements and their chief compounds: *oxygen, hydrogen, carbon, nitrogen, chlorine, bromine, iodine, fluorine, sulphur*, phosphorus, silicon, potassium, *sodium*, calcium, magnesium, *zinc*, copper, mercury, silver, aluminum, *lead*, tin, *iron*, manganese, chromium.

More detailed study should be confined to the italicized elements and to a restricted list of compounds, such as: water, hydrochloric acid, carbon-monoxide, carbon-dioxide, nitric acid, ammonia, sulphur dioxide, sulphuric acid, hydrogen-sulphide, sodium-hydroxide.

Attention should be given to the atmosphere (constitution and relation to animal and vegetable life), flames, acids, bases, salts, oxidation and reduction, crystallization, manufacturing processes, familiar substances (illuminating gas, explosives, baking powder, mortar, glass, steel, common alloys, porcelain, soap).

Combining proportions by weight and volume; calculations founded on these and on Boyle's and Charles's laws; symbols and nomenclature (with careful avoidance of special stress, since these are non-essential); atomic theory, atomic weights and valency in a very elementary way; nascent state; natural grouping of the elements; solution (solvents and solubility of gases, liquids, and solids; saturation); ionization; mass action and equilibrium; strength (=activity) of acids and bases; conservation and dissipation of energy; chemical energy (very elementary); electrolysis. Chemical terms should be defined and explained, and the pupil should be able to illustrate and apply the ideas they embody. The theoretical topics are not intended to form separate subjects of study, but should be taught only so far as is necessary for the correlation and explanation of the experimental facts.

It is recommended that the candidate's preparation in chemistry should

include: (1) Individual laboratory work, comprising at least forty exercises; (2) instruction by lecture-table demonstrations, to be used mainly as a basis for questioning upon the general principles involved in the pupil's laboratory investigations; (3) the study of at least one standard text-book, to the end that the pupil may gain a comprehensive and connected view of the most important facts and laws of elementary chemistry.

Every candidate must present as a part of the examination, a note-book, certified by the teacher, containing in the candidate's own language a description of his laboratory exercises, with a careful record of the steps, observations, and results of each exercise. The note-book must afford clear evidence of the pupil's ability to make accurate observations and to draw direct conclusions.

This requirement is the same as that of the College Entrance Examination Board in Chemistry.

BOTANY. *One unit.* The course should include a careful study of the general principles of Anatomy and Morphology, Physiology, and Ecology; also the natural history of the plant groups, and classification.

Individual laboratory work by the student is essential and should receive at least double the amount of time given to recitation. Records of the laboratory work, properly certified by the teacher, in which stress is laid upon accurate drawing and precise description, must be presented at the time of examination.

Where special circumstances, such as exceptional difficulty of obtaining material, prevent the completion of the entire amount while allowing its equivalent in thoroughness, it is recommended that some of the minor topics be omitted rather than that the attempt be made to cover all more superficially. To provide for this possibility, the examination papers will always include a number of alternative questions.

This requirement is the same as that of the College Entrance Examination Board in Botany.

PHYSIOGRAPHY. *One unit.* The candidate's preparation should include: (1) The study of one of the leading secondary text-books in physical geography, that a knowledge may be gained of the essential principles and of well-selected facts illustrating those principles; (2) individual laboratory work, comprising at least forty exercises. From one-third to one-half of the candidate's class-room work should be devoted to laboratory exercises. In the autumn and spring field trips should take the place of laboratory exercises. Properly attested reports of field and laboratory work must be presented at the time of examination.

This requirement is the same as that of the College Entrance Examination Board in Geography.

ASTRONOMY. *One unit.* The requirement in Astronomy demands class instruction in the elementary principles of the science, including observations of the heavens with reference to the positions and movements of the heavenly

bodies. The following are the chief topics to be studied: *The Celestial Sphere*; designation of the directions of a heavenly body. *The Earth*; its axial rotation; time, latitude, longitude; its orbital revolution; precession; aberration, the seasons, equation of time, the calendar. *The Moon*; its axial rotation, orbital motion, librations, phases, surface features, physical condition; lunar and solar eclipses. *The Sun*; its rotation, physical characteristics, light, and heat. *The Planets*; apparent and real motions, individual characteristics. *The Law of Gravitation*; its control of the solar system; the tides. *Comets and Meteors*; their nature and motions. *The Stars*; designation, classification by constellations, motions, distance, brightness, variables.; *Stellar Systems*; clusters, nebulae; the stellar universe, cosmogony.

As no examination in Astronomy is given by the College Entrance Examination Board, the examination in this subject must be taken in September at Brown University; see pages 31, 32.

ADMISSION TO ADVANCED STANDING

A candidate for admission to advanced standing, unless coming from an institution of collegiate rank, will be examined in the studies required for entrance to Brown University (unless admitted by certificate) and in those already pursued by the class which he desires to enter.

A candidate for admission to advanced standing, who comes from an approved institution of collegiate rank, may receive credit, without examination, for work done at such institution. He will be required, however, to present, or to have had accepted elsewhere, the same entrance subjects as are demanded of students entering Brown University without advanced credit; and to cover, or to have covered, all the prescribed subjects in the course leading to the desired degree at Brown University. The Committee on Registration and Attendance will determine the amount of credit that he may receive, on receipt of the following papers, all of which should be sent to the Registrar of Brown University: (1) A formal statement, made out and signed by the proper official of the institution previously attended, showing all preparatory subjects accepted by it for entrance, and all the courses attended at college, with their catalogue numbers, and the standing attained therein by the student; (2) a similar official statement as to whether the student has completed the amount of work regularly required up to the time of his withdrawal from the previous institution, or has done work in excess thereof, or of less amount, or has incurred conditions or probation; (3) a marked catalogue of the institution previously attended, describing the subjects taken; (4) a letter of honorable dismissal from the institution last attended. In case the student desires to present subjects for entrance in addition to those required or accepted at the previous institution, they will be accepted without examination by Brown University provided that they are certified by an approved preparatory school.

Every candidate for a bachelor's degree, admitted to advanced standing, must remain in residence at the University at least one year, and must take in regular course the full amount of work ordinarily required during the academic year.

ADMISSION OF SPECIAL STUDENTS

Mature persons of good character who desire to pursue some special subjects and who have had the requisite preliminary training are allowed to enter the various courses of study in the University without becoming candidates for a degree.

Students who come directly from schools offering full preparatory courses for college, and who are unable to meet the requirements for admission to the regular courses either by examination or certification, will not be admitted as special students.

Applicants for registration as special students must present to the Registrar, on or before August 1 if possible, a certified and detailed statement of the nature and extent of their preparatory work, including testimonials of character and ability. In case a student has attended more than one institution, he must present credentials from each of them. Applicants must satisfy the Committee on Registration and Attendance, by passing the entrance examinations or presenting certificates, that they are qualified to pursue the courses desired.

Special students are subject to the same regulations regarding attendance and examinations as candidates for degrees; they must take fifteen hours of class-room work a week unless satisfactory reasons for a smaller assignment are presented.

ADMISSION OF GRADUATE STUDENTS

To be admitted as a candidate for an advanced degree, an applicant must have received the degree of Bachelor of Arts, of Philosophy, of Science,[‡] or of Letters from Brown University, or some other college of good standing; or, being a student in Brown University, must have completed with a rank of B the work leading to the degree of Bachelor of Arts, of Philosophy, or of Science, with the exception of such an amount as the Committee on Registration and Attendance will allow him to take in excess of a full year's work (fifteen hours a week). A candidate for the degree of Master of Science must have completed in his undergraduate course at least twenty-eight year-hours of work in mathematics and the sciences.

[‡] The degree of Bachelor of Science when given for technical work does not lead to the degree of Master of Arts or Doctor of Philosophy in Brown University.

Persons who have obtained the degree of Bachelor of Arts, of Philosophy, of Science, or of Letters, and who desire to pursue graduate studies without being candidates for an advanced degree, are admitted as special graduate students. Such students are subject to all the regulations of the University regarding graduate students except those which relate to candidacy for degrees.

REGISTRATION AND ENROLMENT OF UNDERGRADUATES

REGISTRATION. In September all new students, whether candidates for a degree or special students, must report at the Administration Building between 9 a.m. and 1 p.m. or between 2.30 p.m. and 5 p.m. on the Monday or Tuesday preceding the opening of the first semester, and fill out registration cards for the whole of the ensuing year. Failure to comply with this rule will be treated as late registration and a fee of three dollars will be charged. All new students must present at or before the time of registration all credentials necessary for admission as candidates for a degree or as special students.

In May of each year all undergraduates in residence, whether candidates for a degree or special students, must obtain at the Registrar's office registration cards, which must be filled out with a statement of the courses elected for the whole of the ensuing year, and returned not later than June 1. Failure to comply with this rule will be treated as late registration and a fee of three dollars will be charged. Before filing their registration cards at the office, members of the Sophomore class who are candidates for the degree of Bachelor of Philosophy must comply with the requirements for concentration. See pages 58, 59.

When semester courses are grouped in one paragraph (*e.g.* Botany 1, 2), they constitute a year course and neither semester may be elected independently unless specific statement to the contrary is made. In starred courses a final mark will be given at the end of the course, the mark given at the end of the first semester being regarded as temporary. Changes in registration will be allowed only on presentation of sufficient reasons to the Committee on Registration and Attendance. Requests for permission to make changes in September must be presented to the committee between 9 a.m. and 1 p.m. or between 2.30 p.m. and 5 p.m. on the Monday or Tuesday preceding the opening of the first semester. Requests for permission to make changes for the second semester must be presented to the committee before the beginning of the examinations of the first semester, unless these requests are the result of failures, in which case they must be presented in writing to the Registrar two days before the opening of the second semester.

ENROLMENT. All students must report at the Registrar's office between 9 a.m. and 1 p.m. or between 2.30 p.m. and 5 p.m. on one of the two days

preceding the opening of each semester and have their names checked as enrolled. Failure to report will be treated as late enrolment and a fee of three dollars will be charged.

REGISTRATION AND ENROLMENT OF GRADUATE STUDENTS

On or before the first day of the academic year, every candidate for registration as a graduate student must file an application with the Dean of the Graduate Department naming the departments, not exceeding three, which he wishes to enter. The application must be made on a blank provided by the Dean, and the blank must be signed by the heads of the departments concerned. The candidate, if not a student or graduate of Brown University, must submit to the Dean, with his application, his diploma or other official evidence of having received a first academic degree, together with a marked catalogue or detailed statement showing the academic courses he has pursued.

A student who has been registered as a graduate student is enrolled as a candidate for a degree when his course of study for the degree has been approved by the Dean of the Graduate Department and by the Faculty. Although graduates of other colleges of good standing are entitled to registration as graduate students, they are not enrolled as candidates for degrees unless the course of study previously pursued by them is, in the opinion of the Dean of the Graduate Department, acting in consultation with the Committee on Registration and Attendance, substantially equivalent to the course leading to the corresponding degree in Brown University. Graduates of colleges in which the course of study is not, in the opinion of this joint committee, equivalent to the corresponding course at Brown University, will be registered as graduate students, but if enrolled they will be required to make up their deficiency under the direction of the committee.

Candidates for advanced degrees must have their selection of courses approved by the heads of the departments in which they are working, and a statement of these courses must be submitted by the heads of the departments to the Dean of the Graduate Department on or before October 15. In the case of candidates for the degree of Doctor of Philosophy, the statement submitted in the first year of candidacy may be a preliminary outline of the course, but a final statement must be submitted by the head of the department in which the major subject lies not later than October 15 in the last year of candidacy. No change can be made without the consent of the Dean of the Graduate Department and of the head of the department which offers the course.

REQUIREMENTS FOR DEGREES

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REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

I. PRESCRIBED SUBJECTS

Ancient Languages (either Latin or Greek, or both). Six hours. At least three hours must be taken in the Freshman year, and the six hours must be completed by the end of the Sophomore year.

French or German. Six hours. Either in French or in German the equivalent of the elementary and intermediate requirement for admission must be taken, or such portion of this requirement as was not presented for admission, and one three-hour year course in addition in the same language. But candidates for the degree of Bachelor of Arts who present the full entrance requirement in both Greek and Latin and who elect six hours of Greek and Latin in college will not be required to take more than six hours of modern language in college. At least three hours must be taken in the Freshman year.

Mathematics. Three hours. Freshman year.

English (Rhetoric and Composition). Three hours. First semester, Freshman year. Three hours. Second semester, Sophomore year.

English Literature. Three hours. Second semester, Freshman year. First semester, Sophomore year.

European History. Three hours. Sophomore or Junior year.

Physical or Natural Science. Some three-hour course continuous through the year. Freshman, Sophomore, or Junior year.

Social and Political Science, and Economics. Some three-hour course continuous through the year. Sophomore, Junior, or Senior year.

Philosophy. Some three-hour course continuous through the year. Sophomore, Junior, or Senior year.

II. REQUIREMENTS ARRANGED BY YEARS

FRESHMAN YEAR

I. REQUIRED STUDIES. *Latin* or *Greek*, three hours; *French* or *German*, three hours; *Mathematics*, three hours; *English*, three hours.

II. ELECTIVE STUDIES. One three-hour course continuous through the year must be chosen from the following list: *Latin, Greek, French, German, Chemistry, Physics, Botany, Biology, Geology, Mechanical Drawing*.

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SOPHOMORE YEAR

That portion of the required work in ancient languages, modern languages, and English, not completed in the Freshman year, and other required and elective courses sufficient to make a total of fifteen hours a week.

JUNIOR YEAR

The required History and Physical or Natural Science, if not previously taken, and other required and elective courses sufficient to make a total of fifteen hours a week.

SENIOR YEAR

All required courses not previously taken, and elective courses sufficient to make a total of fifteen hours a week.

REQUIREMENTS FOR THE DEGREE OF
BACHELOR OF PHILOSOPHY

I. PRESCRIBED SUBJECTS

A continuous course of three hours through the year in each of the following subjects:

Mathematics. This subject may be omitted by students who intend to take Argumentation in the Sophomore year. Freshman year.

English (Rhetoric and Composition). First semester, Freshman year. Second semester, Sophomore year.

English Literature. Second semester, Freshman year. First semester, Sophomore year.

French or German. Either in French or in German the equivalent of the elementary and intermediate requirement for admission must be taken, or such portion of this requirement as was not presented for admission, and one three-hour year course in addition in the same language. At least three hours must be taken in the Freshman year.

Biology. Freshman or Sophomore year.

Physics, Chemistry, Geology, or Astronomy. This requirement does not apply to students who presented Physics and Chemistry for admission. *Chemistry*, or *Geology*, or *Physics*, Freshman or Sophomore year. *Astronomy*, Sophomore year. Only one of this group required.

Classical Civilization (Greek 15, Latin 16). Freshman or Sophomore year. Freshman year for students who do not take Mathematics.

European History. Freshman, Sophomore, or Junior year.

Philosophy. Sophomore, Junior, or Senior year.

Social and Political Science, and Economics. Sophomore, Junior, or Senior year.

Argumentation (*English* 7, 8) (for students who did not take Mathematics in Freshman year). Sophomore year.

II. REQUIREMENTS ARRANGED BY YEARS

FRESHMAN YEAR

I. **REQUIRED STUDIES.** *English, French, or German* (a course in continuation of a course presented for admission); *Mathematics* (for students who do not intend to take Argumentation in the Sophomore year); *Classical Civilization* (for students who do not take Mathematics); *Biology, Chemistry, Geology, or Physics.*

II. **ELECTIVE STUDIES.** One three-hour course continuous through the year must be chosen from the following list: *Latin, Greek, French, German, Classical Civilization, History, Chemistry, Physics, Botany, Biology, Geology, Mechanical Drawing.*

SOPHOMORE YEAR

That portion of the required work in modern languages not completed in the Freshman year.

Biology; for students who did not take this course in the Freshman year.

Physics, Chemistry, Astronomy, or Geology; for students who did not present both Physics and Chemistry for admission or take a course in Physical Science in the Freshman year.

Argumentation; for students who did not take Mathematics in the Freshman year.

Classical Civilization; for students who did not take this subject in the Freshman year.

English.

Other required and elective courses sufficient to make a total of fifteen hours a week.

JUNIOR YEAR

The required History, if not previously taken, and other required and elective courses sufficient to make a total of fifteen hours a week.

During the Junior and Senior years a student must take at least four courses outside the department chosen for special work. See Requirements for Concentration, page 58.

SENIOR YEAR

All required courses not previously taken, and elective courses sufficient to make a total of fifteen hours a week.

III. REQUIREMENTS FOR CONCENTRATION

At the close of the Sophomore year each candidate for the degree of Bachelor of Philosophy must choose from the following list a department in which he intends to do special work during the Junior and Senior years, and must elect at least three courses of three hours a year each in this department. If he has not already taken a three-hour year course in the department chosen, he must elect four courses.

These courses must be selected in consultation with the head of the department and must be approved by him. When two departments are combined, the selection must be made in consultation with the head of the department first named.

At any time before the beginning of the Senior year a student may, with the approval of the Committee on Registration and Attendance, change the department in which he is to do his special work.

With the approval of the department in which the student is doing special work, he may count as the equivalent of one course, work which does not require regular class-room attendance.

LIST OF DEPARTMENTS IN WHICH SPECIAL WORK MAY BE TAKEN

Art.

Art, and Greek Literature and History.

Art, and Roman Literature and History.

Art, and Music.

Art, and History.

Astronomy.

Astronomy, and Civil Engineering.

Astronomy, and Physics.

Astronomy, and Mathematics.

Astronomy, and Geology.

Biblical Literature and History.

Biblical Literature and History, and Greek Literature and History.

Biblical Literature and History, and Philosophy.

Biology.

Botany.

Botany, and Biology.

Chemistry.

Civil Engineering.

Economics.

Education.

Education, and Philosophy.

Education, and Social and Political Science.

Education, and History.

Electrical Engineering.
 English.
 Geology.
 Germanic Languages and Literatures.
 Greek Literature and History.
 Greek Literature and History, and Roman Literature and History.
 Greek Literature and History, and Biblical Literature and History.
 Greek Literature and History, and Indo-European Philology.
 Greek Literature and History, and Art.
 History.
 Mathematics.
 Mechanical Engineering.
 Mechanics and Mechanical Drawing.
 Mechanics, and any Engineering department.
 Philosophy.
 Physics (exclusive of Electrical Engineering).
 Roman Literature and History.
 Roman Literature and History, and Art.
 Roman Literature and History, and Greek Literature and History.
 Roman Literature and History, and Indo-European Philology.
 Romance Languages and Literatures.
 Social and Political Science.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING

FRESHMAN YEAR

<i>First Semester</i>	<i>Second Semester</i>
Mathematics 17	Mathematics 18
Mathematics 13	Mathematics 16
Mech. Drawing 1	Mech. Drawing 2
English 1	English 2

and two of the following courses, Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Civil Engineering.

BROWN UNIVERSITY

SOPHOMORE YEAR

First Semester

Mathematics 19
 Mech. Drawing 3
 Civil Engineering 1
 Physics 1
 ‡ Soc. and Pol. Science

Second Semester

Mathematics 20
 Mech. Drawing 4
 Civil Engineering 2
 Physics 2
 ‡ Economics 1
 § Civil Engineering 4
 Civil Engineering 6

JUNIOR YEAR

Civil Engineering 7
 Mechanics 1
 Geology 3
 Physics 21
 Mech. Engineering 19
 Astronomy 5

Civil Engineering 8
 Mechanics 2
 Geology 4
 Physics 22
 Mech. Engineering 20
 Civil Engineering 10
 Civil Engineering 12

SENIOR YEAR

Civil Engineering 9
 Civil Engineering 13
 Civil Engineering 15
 Civil Engineering 19
 Civil Engineering 35
 Elect. Engineering 1

Civil Engineering 20
 Civil Engineering 22
 Civil Engineering 24
 Civil Engineering 26
 Civil Engineering 28
 Civil Engineering 30
 Civil Engineering 32
 Civil Engineering 34
 Civil Engineering 36
 Mech. Engineering 24
 Mechanics 4

Mechanics 3

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

FRESHMAN YEAR

First Semester

Mathematics 17
 Mathematics 13

Second Semester

Mathematics 18
 Mathematics 16

‡ Or some other year course in the Department of English, or History, or Philosophy, chosen with the approval of the head of the Department of Civil Engineering.

§ Civil Engineering 4 is taken during the spring recess.

First Semester

Mech. Drawing 1
English 1

Second Semester

Mech. Drawing 2
English 2

and two of the following courses, Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Electrical Engineering.

SOPHOMORE YEAR

Mathematics 19
Mech. Drawing 3
Mech. Drawing 5
Physics 1
‡ Soc. and Pol. Science 1
Mech. Engineering 1

Mathematics 20
Mech. Drawing 4
Mech. Engineering 8
Physics 2
‡ Economics 1
Mech. Engineering 2

JUNIOR YEAR

Mechanics 1
Mech. Engineering 9
Physics 21
Elect. Engineering 1
Mech. Engineering 3
Mech. Engineering 19

Mechanics 2
Mech. Engineering 10
Physics 22
Elect. Engineering 2
Elect. Engineering 6
Mech. Engineering 20

SENIOR YEAR

Mechanics 3
Mathematics 9 a

Physics 23
Elect. Engineering 3
Elect. Engineering 7
Mech. Engineering 15

Elect. Engineering 13

Mechanics 4
Elect. Engineering 12
Elect. Engineering 10
Physics 14
Elect. Engineering 14
Elect. Engineering 18
Mech. Engineering 16
Civil Engineering 26
Elect. Engineering 14
Mech. Engineering 24

‡ Or some other year course, not technical, chosen with the approval of the head of the Department of Electrical Engineering.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

FRESHMAN YEAR

First Semester

Mathematics 17
Mathematics 13
Mech. Drawing 1
English 1

Second Semester

Mathematics 18
Mathematics 16
Mech. Drawing 2
English 2

and two of the following courses, Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Mechanical Engineering.

SOPHOMORE YEAR

Mathematics 19
Mech. Drawing 3
Mech. Drawing 5
Physics 1
‡ Soc. and Pol. Science 1
Mech. Engineering 1

Mathematics 20
Mech. Drawing 4
Mech. Engineering 8
Physics 2
‡ Economics 1
Mech. Engineering 2

JUNIOR YEAR

Mech. Engineering 19
Mech. Engineering 15
Mech. Engineering 3
Mech. Engineering 9
Mechanics 1
Physics 21

Mech. Engineering 20
Mech. Engineering 16
Mech. Engineering 4
Mech. Engineering 10
Mechanics 2
Physics 22

SENIOR YEAR

Mech. Engineering 21
Mech. Engineering 5
Mech. Engineering 17
Mechanics 3
Elect. Engineering 1
Mech. Engineering 11

Mech. Engineering 25

Mech. Engineering 22
Mech. Engineering 14
Mech. Engineering 18
Mechanics 4
Elect. Engineering 2
Mech. Engineering 12
Mech. Engineering 24
Mech. Engineering 26
Civil Engineering 26

‡ Or some other year course in the Department of English, or History, or Philosophy, chosen with the approval of the head of the Department of Mechanical Engineering.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

To obtain the degree of Master of Arts, the candidate must complete a course of liberal graduate study of not less than fifteen hours a week for one year. When graduate students pursue courses primarily designed for undergraduates, a higher degree of scholarship than in the case of undergraduates will be required.

Graduates of Brown University who have to their credit work done as undergraduates and not counted towards the bachelor's degree may offer such work in partial fulfilment of the requirements for the degree of Master of Arts, provided such work is in courses which may be taken by graduates and does not lie in more than three departments, and provided the student has completed the work with a grade of B.

Work done in residence for an advanced degree at another institution, and not to be used in fulfilment of the requirements for an advanced degree elsewhere, may, with the approval of the Dean of the Graduate Department, be offered in partial fulfilment of the requirements for the degree of Master of Arts; but the equivalent of at least nine hours' work a week for one year must be done at Brown University.

When any part of the work leading to the degree of Master of Arts is done *in absentia*, ‡ the degree will not be conferred until the end of the second full year of study. The degree *in absentia* must be taken within three years after enrolment, unless the period is extended by special action of the Faculty. Candidacy *in absentia* may be terminated at the end of six months if definite evidence of progress has not been submitted. Candidates *in absentia* must register (by correspondence, if necessary) at the beginning of each college year, and make reports to their instructors at the end of each semester. A final public examination is required of all candidates *in absentia*. This examination will be held only when notification of the intention to appear for examination is given on or before April 1 of the year in which the candidate desires to receive the degree.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE

To obtain the degree of Master of Science, the candidate must complete a course of scientific study satisfactory to the Dean of the Graduate Department and the departments concerned, of not less than fifteen hours of work a week for one year, and must present a thesis in one of the graduate courses which he is pursuing; in place of the thesis a six-hour graduate laboratory

‡ Courses *in absentia* are not offered by all departments.

course extending through the year may be accepted. All the work must be in one or more of the following subjects: mathematics, engineering, physics, chemistry, astronomy, the biological sciences, psychology, geology, and mineralogy. At least half the work must be in courses designed wholly or primarily for graduates; the remainder may consist of any courses satisfactory to the departments concerned and to the Dean of the Graduate Department.

All the work must be done in residence at Brown University with the exception that work done for the degree of Master of Science at another institution, and not to be used in fulfilment of the requirements for any degree elsewhere, may, with the approval of the Dean of the Graduate Department and the departments concerned, be accepted in partial fulfilment of the requirements for the degree of Master of Science to the extent of not more than six hours of work a week for one year.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY ‡

To obtain the degree of Doctor of Philosophy, the candidate must spend at least two years continuously in residence, pursuing a systematic course of advanced study approved by the Graduate Department, the Faculty, and the Board of Fellows, and must pass satisfactory examinations thereon. The candidate must conclude his course with a thesis embodying the results of original research giving evidence of high scholarship and of special attainments in the studies pursued, and constituting as a whole a definite contribution to knowledge. The candidate is examined publicly before June 1 by a committee consisting in each case of the Graduate Department, together with those members of the Faculty who have directed his work and any other officers of professorial rank in the departments concerned. The examination is held only when notification of the intention to appear for examination is given on or before April 1 of the year in which the candidate desires to obtain his degree. The thesis must be presented to the Faculty, in typewritten copy or print, before May 1 in that year. The approval of this thesis by the Faculty is essential to the attainment of the degree.

Work done in residence for the degree of Doctor of Philosophy at another institution, and not to be used in fulfilment of the requirements for an advanced degree elsewhere, may, with the approval of the Dean of the Graduate Department, be offered in partial fulfilment of the requirements for the degree of Doctor of Philosophy. One full year of continuous work, consisting of at least one-half of the minimum requirements for the major and one-half of the minimum requirements for the minor, must be spent at Brown University.

‡ As a rule the requirements for this degree, including the thesis, cannot be satisfied in less than three years.

For the degree of Doctor of Philosophy at least two subjects are necessary, a major and a minor, not in the same department; the major subject must constitute not less than three-fifths of the candidate's work. The selection of the courses constituting the major and the minor subjects must receive the approval of the head of the department in which the major subject lies, and of the Dean of the Graduate Department. The approval of the head of the department in which the minor subject lies is also necessary for the courses elected in his department.

The candidate must possess a reading knowledge of Latin, German, and French adequate for the purposes of his special studies, unless for sufficient reasons he is excused in respect to one of these languages. To test the candidate's proficiency in this particular, he is examined before December 1 in the last year of his candidacy by a committee consisting of the heads of the departments in which the major and the minor subjects lie, and the heads of the departments of Latin, German, and French.

A year of work for the degree of Master of Arts may be, but is not necessarily, counted as a year of work for the degree of Doctor of Philosophy.

REGULATIONS UNDER WHICH A STUDENT MAY TAKE A FIRST DEGREE IN LESS THAN FOUR YEARS

A candidate for a first degree, who has credit for the required number of hours of work, including all the required subjects, may, at the end of the semester in which his work is completed, be excused from further attendance at the University, and may receive his degree at the Commencement next following such semester.

A candidate for a first degree who has maintained a satisfactory standing in his studies may, subject to the consent of the Committee on Registration and Attendance, take work in addition to the regular number of hours prescribed in the curriculum of the course which he is pursuing.

A candidate for a first degree may receive credit for work done at the summer school of an approved institution of collegiate rank, provided that the work have the approval of the head of the corresponding department in Brown University. The amount of credit given at the institution in question will be given at Brown University, but the total credit for work at summer schools in any one summer shall not exceed nine semester hours.

A candidate for a first degree may, with the consent of the head of a department and with the approval of the Faculty, pursue studies connected with that department during any summer in which he does not attend a summer school, and may receive credit for such studies, provided that the work be under the supervision of the head of the department concerned and that the candidate pass an examination in all the work before the end of the following

semester. The amount of credit will be determined by the head of the department, but the total credit for any one summer shall not exceed six semester hours. No student will be allowed to do summer work in connection with any department of the University until he has presented to the head of the department a registration slip signed by the Registrar.

A student who at the beginning of his Senior year lacks less than thirty semester hours of completing his course may, with the consent of the Committee on Registration and Attendance, distribute his work over the year.

A student who at the beginning of any semester lacks less than fifteen semester hours of completing his course may, for reasons deemed sufficient by the Committee on Registration and Attendance, be excused from taking more than the necessary number of hours.

For conditions under which graduate work may be pursued during the Senior year, see page 52, under "Admission of Graduate Students."

ATTENDANCE, STANDING, AND EXAMINATIONS

ATTENDANCE. Every student is required to attend every session of the classes in which he is registered, including gymnasium, and also the daily Chapel service.

STANDING. A record is kept of the attendance of every student and of his proficiency in his several studies. At the close of each semester a report is sent to the parent or guardian of every undergraduate student containing a record of all his absences from required exercises, and indicating his standing in each of his studies for the semester and his deficiency in any study or studies, if any deficiency exists. A student who has failed in three or more courses in any semester, counting for more than eight hours a week, cannot continue his work without the permission of the Committee on Registration and Attendance.

There are four pass grades : A, B, C, D. No student will be allowed to graduate who has not attained a grade above D in at least sixty semester hours of college work.

E is assigned to those who have failed to pass, but who, in the opinion of the instructor, should be allowed a second examination.

F is assigned to those whose work during the semester has been so unsatisfactory that, in the opinion of the instructor, they should not be allowed an examination ; to those whose work in the regular examination has been so unsatisfactory that, in the opinion of the instructor, they should not be allowed a second examination ; to those who, in a laboratory course, have not completed half the work required ; to those who fail on a second examination.

I is assigned to those whose term work is incomplete, but satisfactory so far as done. All incomplete work must be made up before the middle of the following semester unless special permission for extension of time is given by the Committee on Registration and Attendance. If this requirement is not met, the mark will be changed to F.

Abs. is assigned to those who were absent from examination, unless F has already been assigned.

O is assigned to those who have been absent one-half the time in a course, or to those whose absence from the examination is not excused by the Committee on Registration and Attendance.

EXAMINATIONS. All classes are examined at the close of each semester, unless special arrangement is made with the approval of the Committee on Examinations. A student is not admitted to the examination in a study in which he has received the mark F or O.

Examinations other than the regular semester examinations are given only in

the cases of: (1) students who have received the mark E, (2) students who have received the mark Abs., and (3) candidates for advanced standing.

A student is not admitted to a special examination except on written authorization from the Registrar. If the examination is taken to remove the mark E or Abs., the student must pay to the Registrar a fee of two dollars. The Registrar does not authorize special examinations for advanced standing or to remove the mark Abs. without the consent of the Committee on Registration and Attendance.

Special examinations upon the work of the first semester are given only during the following spring recess. Special examinations upon the work of the second semester are given only in the following September on as many days as may be necessary preceding the opening of the academic year, except that special examinations on the work of the second semester of the Senior year are given on the Saturday and Monday after the examination period in June.

Students desiring special examinations in the second semester must make application to the Registrar not later than March 1, specifying the subjects in which examinations are desired. On or before March 15 a schedule of special examinations will be posted. Students desiring special examinations in September must make application to the Registrar not later than August 15, specifying the subjects in which examinations are desired. A schedule of the September examinations is sent about September 1 to the students concerned. Special examinations on the work of the second semester of the Senior year are arranged at the convenience of the instructor.

Special examinations at times other than those scheduled are allowed only by consent of the Committee on Registration and Attendance.

Special examinations for advanced standing are, so far as possible, arranged at the times assigned for other special examinations.

EXAMINATIONS IN ENTRANCE CONDITIONS. Members of the Freshman class who enter with conditions in English *a*, English *b*, Algebra, or Plane Geometry are required to take regular instruction in these subjects during the Freshman year under a tutor approved by the department concerned. A special examination will be given on completion of the work.

Students who enter with conditions in Language, Science, History, Solid Geometry, Plane Trigonometry, or Advanced Algebra, must remove these conditions, by examination, before the beginning of the Sophomore year, otherwise such conditions will be regarded as deficiencies in college work and the students required to take extra courses in the departments in which the deficiencies occur, the amount and selection of the courses to be determined by the Committee on Registration and Attendance in consultation with the departments.

For members of the Freshman class, special entrance examinations are given by the University at the close of the Christmas recess in all subjects except English, Algebra, and Plane Geometry. Students desiring to take these exami-

nations must file written applications with the Registrar before December 1. No student who has failed in an entrance examination will be granted a second examination at any time other than September, except on presentation of a tutor's certificate that he is prepared for such examination, and on payment of a fee of two dollars. No entrance examinations other than those appointed above will be held unless ordered by vote of the Committee on Registration and Attendance.

COURSES OF INSTRUCTION

WHEN semester courses are grouped in one paragraph (e.g. Biology 1, 2), they constitute a year course and neither semester may be elected independently unless specific statement to the contrary is made. In starred courses a final mark covering the work of the course as a whole is given at the end of the course, the marks given at the end of the first semester being regarded as temporary. When the time of meeting is not announced, it will be arranged by the instructor at the beginning of the semester.

I. ART†

WILLIAM CAREY POLAND, A.M., LITT.D., *Professor of the History of Art*

1, 2. *History of Art from Antiquity through the Renaissance*

First semester, ancient art, chiefly Greek and Roman. Second semester, Early Christian, Byzantine, Romanesque, and Gothic art, and the art of the fifteenth and sixteenth centuries; the effect on art of the dominant motives of the epoch, the development of art in the different countries of Europe, the great masters and their most significant works. Text-book, lectures, lantern views. Students who elect this course are advised to elect also, if possible, courses 17, 18, *Advanced Drawing and Color Work*.

Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Either semester may be elected independently. *Mon., Wed., Th., at 10.20.*

3, 4. *Modern Art, and Theory and Criticism of the Fine Arts*

First semester, the seventeenth and eighteenth centuries. Second semester, the nineteenth century, with a study of the more important facts and laws of artistic production. Text-book, lectures, special assigned topics, lantern views.

Three hours. Through the year. Course 3 is elective for students who have completed 2. Course 4 is elective for students who have completed 1, or 2, or 3. *Mon., Th., Fri., at 9.20.*

5,* 6.* *Renaissance Art, Advanced Course*

Critical study of the art of the fifteenth and sixteenth centuries, particularly Italian. A more detailed study of the spiritual conditions, the influences, and the masters, than in 2.

† For arrangements with the Rhode Island School of Design, see page 157.

Three hours. Through the year. Elective by written consent of the instructor for students who have credit for 2. *Tu., Th., Sat., at 12.20.*

7, 8. *Seminary in Greek and Roman Sculpture*

An archaeological course based on Overbeck's *Schriftquellen*.

Three hours. Through the year. Elective for Graduates who read Greek and Latin. It is advised that application be made to Professor Poland at an early date.

[9. *Seminary Study of the Acropolis of Athens*]

Critical reading, in Greek, of Pausanias' account of the Acropolis of Athens; lectures and illustrations.

Three hours. First semester. Elective for Graduates who read Greek and Latin. Not offered in 1913-14.

[10. *Seminary in Classical Architecture*]

Critical study; reading of Vitruvius in Latin; discussion of the principles followed by the Greek and Roman architects, and of the influence of Vitruvius upon the Renaissance.

Three hours. Second semester. Elective for Graduates. Offered if three or more elect the course. Not offered in 1913-14.

15,* 16.* *Freehand Drawing*

Training of hand and eye by study in charcoal and pencil of casts and still-life objects.

One hour. Two hours of drawing. Through the year. Elective for Undergraduates. Given at the Rhode Island School of Design. Hours to be arranged with the Director.

17,* 18.* *Advanced Drawing and Color Work*

Practical work in light and shade, and in color.

Three hours. Six hours of drawing, or four hours of drawing and one hour lecture on Historic Ornament. Through the year. Elective for students who have credit for or are taking 1, 2, and who have credit for 15, 16. Given at the Rhode Island School of Design. *Mon., Tu., Wed., at 2.* Lecture hour to be arranged with the Director.

II. ASTRONOMY

WINSLOW UPTON, A.M., Sc.D., *Professor of Astronomy*

JOHN EDWARDS, *Assistant in the Ladd Observatory*

1, 2. *General Course*

Designed for general culture and preparation for technical work. Fundamental conceptions; methods of professional study. First semester, chief topic: the movements of the heavenly bodies. Second semester, chief topics: the physical condition of the heavenly bodies; the sidereal universe.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors who have credit for Mathematics 1, 2. *Mon., Wed., Th., at 10.20.* Observations at Ladd Observatory.

5. *Field Astronomy*

The astronomical problems of geodesy: azimuth, time, latitude, longitude. Computations and observations.

Four hours. First semester. Required of candidates for the degree of Bachelor of Science in Civil Engineering. Elective for Juniors and Seniors who have credit for Mathematics 1, 2. *Mon., Tu., Th., Fri., at 2.20.* Observations at Ladd Observatory.

7, 8. *Advanced Astronomy*

Designed for students who wish to specialize in Astronomy.

Three hours. Through the year. Elective for approved students who have credit for 1, 2. Not given unless elected by four or more students.

9, 10. *Research Course*

Special advanced work. Subjects arranged to meet the requirements of individual students.

Elective for Graduates and approved Undergraduates.

III. BIBLICAL LITERATURE AND HISTORY †

HENRY THATCHER FOWLER, PH.D., *Professor of Biblical Literature and History*

NATHAN STERN, PH.D., *Lecturer in Biblical Literature and History*

LANGUAGES

1, 2. *Elementary Hebrew*

Grammar; exercises in writing Hebrew; translation of parts of Genesis and Deuteronomy. *Dr. STERN.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates.

3, 4. *Historical Hebrew*

Reading of the books of Samuel and Kings with special attention to the acquisition of a vocabulary; review of the elements of Hebrew grammar and study of syntax. *Dr. STERN.*

Three hours. Through the year. Elective for students who have credit for 1.

5, 6. *Hebrew Literature*

Prophetic literature. Critical translation of the prophetic books of the Old Testament; investigation of the characteristics and development of Israel's prophecy. In succeeding years corresponding courses in the Psalm, Wisdom, and Legal literature of the Old Testament will be offered. *Professor FOWLER.*

Three hours. Through the year. Elective for Graduates and approved Undergraduates.

7. *Textual Criticism of the Old Testament*

The principles and method of textual criticism, in connection with the study of one of the shorter prophetic books. *Dr. STERN.*

Three hours. One semester. Offered if applied for by Graduates.

8. *Biblical Aramaic*

Grammar and reading of the Aramaic portions of the Old Testament. *Dr. STERN.*

Three hours. One semester. Offered if applied for by students who have credit for 1.

† For conditions under which students may receive credit in the Newton Theological Institution for work done in this department, see page 157.

9, 10. *Elementary Arabic*

Grammar; exercises in writing Arabic; translation of prose selections. *Professor FOWLER.*

Two hours. Through the year. Elective for Seniors and Graduates.

11, 12. *Gospels and Epistles*

Characteristics of Hellenistic Greek; translation, and investigation of date, authorship, and thought. First semester, the Gospel and Epistles of John, the Gospel of Mark. Second semester, the Gospels of Matthew and Luke. *Professor FOWLER.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Either semester may be elected independently. *Wed., Fri., Sat., at 11.20.*

[13, 14. *Acts and Pauline Epistles*]

First semester, Acts and Thessalonians. Second semester, Galatians, Corinthians, and Romans.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Not offered in 1913-14.

LITERATURE AND HISTORY IN ENGLISH ‡

[15, 16. *Old Testament Literature and History*]

Includes nearly the entire Old Testament literature and history. In connection with course 17, 18, gives a comprehensive view of Biblical literature and history. The books are read in the best English translations. First semester, early Semitic history, Hebrew literature and history to the close of the United Kingdom. Second semester, Hebrew and Jewish literature and history from the division of the kingdom to the conquest of Alexander.

Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Not offered in 1913-14.

17, 18. *New Testament Literature and History*

Includes a large part of the Jewish writings from the conquest of Alexander to the destruction of Jerusalem, and the entire New Testa-

‡ Course 19, 20 gives a rapid survey of the Bible as a part of the world's literature. It is designed especially for those who do not expect to pursue further courses in this department. Courses 15, 16 and 17, 18 are introductory to more detailed courses in the University or the Theological Seminary. They are also designed for those who, without intending to specialize in this field, desire a comprehensive view of the nature and results of the historical as well as the literary study of the Bible.

ment studied in its Jewish setting. Emphasis placed upon the connection between the literature and the history. In connection with course 15, 16, gives a comprehensive view of Biblical literature and history. The books are read in the best English translations. First semester, Jewish literature and history from the beginning of the Greek period to the destruction of Jerusalem, the Gospels and other sources for the life of Christ. Second semester, outline of the life of Christ, literature and history of the Apostolic age. *Professor FOWLER.* Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Either semester may be elected independently. *Mon., Wed., Th., at 10.20.*

19, 20. *The English Bible as Literature*

An outline of the literary history of the Old and New Testaments; the literary forms represented in the Bible; the place of the Bible in English literature. Emphasis placed upon the literature itself and its connection with the present. Lectures and assigned readings from the English Bible. First semester, Old Testament literature from the beginning to the close of the Babylonian exile. Second semester, the completion of the Old Testament, and the New Testament literature. *Professor FOWLER.*

Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Either semester may be elected independently. *Mon., Tu., Th., at 11.20.*

21,* 22.* *Biblical Seminary*

Subject for 1913-14: The Interpretation of Jesus in the Apostolic Age. *Professor FOWLER.*

Three hours. Through the year. Elective for Graduates and approved Juniors and Seniors who have taken courses in Biblical Literature and History.

23. *Principles of Historical Criticism and Research*

The general principles of historical criticism and the literature of historical theory. *Professor FOWLER.*

One hour. One semester. Elective for Graduates of one year's standing. Required of all candidates for the degree of Doctor of Philosophy in Biblical Literature and History.

IV. BIOLOGY

ALBERT DAVIS MEAD, PH.D., SC.D., *Professor of Biology*

FREDERIC POOLE GORHAM, A.M., *Professor of Bacteriology*

HERBERT EUGENE WALTER, PH.D., *Associate Professor of Biology*

PHILIP HENRY MITCHELL, PH.D., *Assistant Professor of Physiology*

JOHN BURNHAM FERGUSON, A.B., M.D., *Demonstrator in Anatomy*

RALPH C. HURLIN, A.M., *Graduate Assistant*

1, 2. *General Biology*

The structure of animals and plants; elementary vital phenomena; the functions of organs; the development of organisms; classification. An outline of the more important biological theories, such as evolution, natural selection, variation, mutation and heredity, and the principles upon which modern hygiene and sanitation are based. The course will introduce the student to the use of the microscope, laboratory technic, and to scientific methods of observation and experiment. *Professor GORHAM.*

Three hours. Six hours of attendance. Through the year. Required in Freshman or Sophomore year of candidates for the degree of Bachelor of Philosophy. Elective for Undergraduates. Lectures, *Mon., Tu., Th., at 3.20.* Laboratory, *1st div., Mon., Tu., Th., at 2.20; 2d div., Tu., Th., Sat., at 12.20.*

3, 4. *Comparative Anatomy of Vertebrates*

Intended not only for the general student, but also for those who are particularly interested in zoölogy and for those who expect to study medicine. The structure and significance of the various organs of vertebrates with particular reference to man. Students are permitted to attend clinics and autopsies at the Rhode Island Hospital. Laboratory work and lectures. *Professor WALTER.*

Three hours. Six hours of attendance. Through the year. Elective for Sophomores, Juniors, and Seniors who have credit for 1, 2. *Mon., Wed., Fri., at 8.*

5, 6. *Anatomy of the Nervous System*

A study of the gross and microscopic anatomy of the brain, nerves, and sense organs in man and other vertebrates. Designed particularly for those intending to study medicine or psychology. *Professor MEAD.*

Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for 1, 2.

7, 8. *Embryology and Histology*

The origin of the individual and the developmental process from the egg to the adult; the material basis of heredity; the composition of the body and its organs from the viewpoint of its vital units, the cells. Practice in micro-technic. Adapted to the requirements of general students and of those intending to study medicine. *Professor MEAD.*
Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for 1, 2. *Tu., Th., Sat., at 8.*

9, 10. *Advanced Histology and Pathology*

Work in micro-technic and in normal and pathological histology. Adapted to individual requirements. *Professor MEAD.*
Three hours. Six hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 1, 2, and 7, 8.

11, 12. *General Physiology*

General vital processes in plants and animals; the more special phenomena in higher animals, with their application to human physiology. Designed not only as an introduction to further work, but also as a general view of physiology. Lectures and laboratory work. *Professor MITCHELL.*

Three hours. Six hours of attendance. Through the year. Must be preceded by 1, 2, and by Chemistry 1, 2. Elective for Juniors and Seniors, and for Sophomores who are not taking any other course in the department. *Mon., Tu., Th., at 3.20.*

13, 14. *Chemical Physiology*

The chemistry of proteins, carbohydrates, and fats; the physiology of the digestive system, with the study of secretions and of artificial salivary, gastric, and pancreatic digestions; examination of blood, bile, and urine; the analysis of foods, with special reference to milk. Designed for those who are interested in physiology either from a medical or a general standpoint, and for those who are specializing in chemistry and desire a knowledge of vital chemical processes. *Professor MITCHELL.*

Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for or are taking Chemistry 7, 8. *Tu., Fri., Sat., at 10.20.*

15. *Invertebrate Zoölogy*

A study of the natural history of invertebrate animals, particularly

marine forms, insects, and protozoa. Lectures with laboratory and field work. *Professor WALTER.*

Three hours. Six hours of attendance. First semester. Elective for Undergraduates. *Tu., Th., Sat., at 8.*

16. *Bacteriology*

A general discussion of bacteria in all their relations, with special attention in the laboratory to the methods of studying bacteria, including the isolation, systematic study, and determination of unknown species. Lectures and laboratory work. *Professor GORHAM.*

Three hours. Six hours of attendance. Second semester. Elective for Juniors and Seniors, and for Sophomores who are not taking any other course in the department. *Mon., Wed., Th., at 10.20.*

17, 18. *Advanced Bacteriology*

Practical work in the preparation of culture media; methods of sterilization and disinfection; qualitative and quantitative biological examination of water, milk, air, soil, and sewage; study of certain pathogenic organisms, with the determination of their pathogenic properties, and the methods of bacteriological diagnosis of disease. Laboratory work and seminary. *Professor GORHAM.*

Three hours. Six hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 16.

20. *Ornithology*

A study of birds regarded as a group of living animals, in relation to their environment. Lectures and early morning field trips for the identification of wild birds during their spring migration. *Professor WALTER.*

One hour. Two hours of attendance. Second semester. Elective for Undergraduates.

22. *Evolution*

The history of biology, principles of classification, geographical distribution, heredity, natural selection, variation, Mendelism, and the relationship of man to the lower animals. Designed particularly for those who have not studied biology. Lectures and assigned reading. *Professor MEAD.*

Three hours. Second semester. Elective for Juniors and Seniors. *Wed., Fri., Sat., at 11.20.*

[24. *Physiology*]

A general survey of the activities of living organisms with special reference to the human body, including some applications of modern physiology to healthful living. Lectures and assigned reading.

Three hours. Second semester. Elective for Juniors and Seniors. Not offered in 1913-14.

31, 32. *Human Anatomy*

A course in practical dissection. Students are permitted to attend clinics and autopsies at the Rhode Island Hospital. *Dr. FERGUSON.*

Three hours. Through the year. Elective for Graduates.

33, 34. *Biological Research*

Research work arranged to meet the requirements of individual students. *Professor MEAD.*

Three to twelve hours. Through the year. Elective for Graduates.

35, 36. *Advanced Physiology*

Laboratory work and seminary. *Professor MITCHELL.*

Three to twelve hours. Through the year. Elective for Graduates who have sufficient knowledge of chemistry and physiology.

37, 38. *Bacteriological Research*

Research work arranged to meet the requirements of individual students. *Professor GORHAM.*

Three to twelve hours. Through the year. Elective for Graduates who have credit for 16 and 17, 18.

39, 40. *Biological Theories and Problems*

Seminary course. *Professor MEAD.*

One to three hours. Through the year. Elective for Graduates.

41, 42. *Zoölogical Seminary*

Reading and discussion of German zoölogical literature selected with reference to the needs of individual students. *Professor WALTER.*

One to three hours. Through the year. Elective for Graduates.

V. BOTANY

HARLAN HARVEY YORK, PH.D., *Assistant Professor of Botany*

JAMES FRANKLIN COLLINS, PH.B., *Demonstrator in Botany*

1, 2. *General Course*

Designed not only as a general culture course, giving the student a definite conception of the vital importance of botany as related to modern life, but also as a preliminary training for those who contemplate further work in botany. The origin, development, structure, physiology, and classification of plants. A discussion of biological subjects of fundamental human interest, such as evolution, the origin of new species, and the general laws of inheritance in plants.

Three hours. Six hours of attendance. Through the year. Elective for Undergraduates. Lectures, *Mon., Wed., at 8*. Laboratory, *Mon., Tu., 2.20 to 4.20*.

3, 4. *Physiological Anatomy*

Intended for students who are planning to study medicine, agriculture, forestry, or plant pathology, as well as for those who expect to teach or pursue further work in botany. The origin, minute structure, and physiological function of plant tissues; reproduction, cytology, methods in micro-technic. The biological purpose of this course is to help the student to understand how plants, by the differentiation of cells and their association into tissues adapted to perform different kinds of work, are able to meet the conditions of their environment.

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2, or its equivalent.

5, 6. *Comparative Morphology and Phylogeny*

Designed not only for the general student, but for those who expect to teach, and for those who are particularly interested in botany. Methods in micro-technic. Intended to acquaint the student with a wider range of scientific methods in plant biology through a more comprehensive knowledge of plant forms and the more fundamental conclusions of morphology and phylogeny. Special emphasis will be placed upon the evolution, morphology, and classification of plants.

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2, or its equivalent.

7, 8. *Special Course*

Special work on various phases of botany arranged to meet the re-

quirements of individual students. May be taken in successive years. Students electing this course must plan it definitely, in consultation with the instructor, before June 1 of the preceding academic year. One or more hours. Through the year. Either semester may be elected independently. Elective for Graduates, and for approved Juniors and Seniors.

9. *Diseases of Plants*

Designed to give the student a definite idea of one of the most fundamental relations of botany to the food supply of man, and to stimulate further inquiry into an inexhaustible field of science. An introduction to the nature, causes, and remedies of diseases of plants. Lectures and demonstrations.

One hour. Two hours of attendance. First semester. Elective for Undergraduates. Lectures, *Fri. at 8.*

10. *Trees*

Intended to familiarize the student with the common native and introduced trees of Rhode Island. Special attention will be given to their structure and economic value. Lectures and field work.

One hour. Two hours of attendance. Second semester. Elective for Undergraduates. Lectures, *Fri. at 8.*

[11, 12. *Physiology*]

Includes a study of imbibition, diffusion, osmosis, turgor, and the retention of bodily form; relation of soil and solutes to the plant; transpiration and exudation; movement of materials within the plant body; photosynthesis; respiration; growth and movement; reproduction and death.

Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for 1, 2, and 3, 4, or 5, 6, and for Graduates. Not offered in 1913-14.

13, 14. *Plant Pathology*

General course, including the identification of bacteria and fungi which cause diseases in our more common cultivated and native plants and native and introduced trees; their manner of infection and effects on their hosts, methods of prevention and control, and methods of culture and inoculation which are employed in the laboratory in the study of diseases of plants.

Three hours. Six hours of attendance. Through the year. Must be preceded by 1, 2, and 3, 4, or 5, 6.

VI. CHEMISTRY

JOHN HOWARD APPLETON, A.M., Sc.D., *Newport-Rogers Professor of Chemistry*

JOHN EMERY BUCHER, Ph.D., *Associate Professor of Organic Chemistry*

NORMAN EDWARD HOLT, Ph.D., *Instructor in Chemistry*

ROBERT GAMBLE CASWELL, Sc.M., *Instructor in Chemistry*

THOMAS HOWARTH ROBERTS, Ph.B., *Assistant in Chemistry*

SAMUEL TOMLINSON ARNOLD, A.B., *Assistant in Chemistry*

1, 2. *Descriptive Chemistry* ‡

Non-metals; metals, their metallurgy, compounds, and practical applications; theoretical chemistry. Lectures with experiments; written exercises; individual laboratory work. *Professor* BUCHER, *Dr.* HOLT, and *Mr.* ROBERTS.

Three hours. Through the year. Elective for Undergraduates. *1st div.*, *Mon., Th.*, at 10.20; *2d div.*, *Tu., Fri.*, at 10.20. Laboratory hours to be arranged with the instructor.

3, 4. *Qualitative and Quantitative Analysis*

Properties of the metallic elements; their separation from certain of their compounds. The principal non-metals and the acids formed by them; methods of separation and recognition of acids and acid radicals. Quantitative precipitations and separations of the most important elements and compounds; the principles upon which quantitative apparatus is constructed. Laboratory work; recitations in qualitative analysis and in chemical philosophy; exercises in stoichiometry. *Professor* APPLETON and *Mr.* CHAMPNEY.

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2. *1st div.*, *Fri.* at 11.20; *2d div.*, *Sat.* at 10.20. Laboratory hours to be arranged with the instructor.

‡ Credit for the entrance requirement in Chemistry admits only to 1, 2, which may be taken also without previous preparation. Students who wish to enter more advanced courses without taking 1, 2 must pass a special test at the time of the entrance examination in Chemistry. This test will cover the following topics: 1. All of the non-metals with their principal compounds and the processes of manufacture of the chief commercial products from non-metals. 2. About thirty important metals, their occurrence, preparation from the ore, the preparation and uses of their chief compounds. 3. The general principles of chemical action which depend upon physical laws. 4. Methods of making chemical computations of moderate difficulty. Preparation for this test may require the equivalent of six hours a week for one school year.

5, 6. *Quantitative Analysis, Advanced Course*

Assaying of metallic ores; analysis of agricultural materials; testing of chemicals used in textile establishments, etc. *Professor APPLETON and Mr. CHAMPNEY.*

Six hours. Twelve hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 3, 4. Laboratory hours to be arranged with the instructor.

7, 8. *Organic Chemistry*

Preparation and analysis of representative organic compounds. Lectures, recitations, and laboratory work. *Professor BUCHER, Dr. HOLT, and Mr. ROBERTS.*

Six hours. Through the year. Elective for approved Juniors, Seniors, and Graduates. *Mon., Th., Fri., at 9.20.*

10. *Assaying*

Professor APPLETON and Mr. CHAMPNEY.

Six hours. Twelve hours of attendance. Second semester. Elective for Seniors and Graduates who have credit for 1-4.

12. *Organic Dyes*

The chemistry and use of mordants, dyes, etc. *Professor APPLETON and Mr. CHAMPNEY.*

Six hours. Twelve hours of attendance. Second semester. Elective for approved Seniors and Graduates.

[13, 14. *Industrial Chemistry*]

Lectures and laboratory work.

Three to six hours. Six to twelve hours of attendance. Through the year. Elective for approved Graduates. Either semester may be elected independently. Not offered in 1913-14.

15, 16. *Physical Chemistry*

Lectures and laboratory work.

Three hours. Through the year. Elective for approved Juniors, Seniors, and Graduates.

17, 18. *Physical Chemistry, Advanced Course*

Lectures and laboratory work. *Professor BUCHER.*

Three hours. Through the year. Elective for approved Graduates who have credit for Physics 1-4, and have credit for or are taking Mathematics 7, 8.

[19. *Organic Chemistry, Advanced Course*]

Three hours. First semester. Elective for approved Graduates. Not offered in 1913-14.

20. *Inorganic Chemistry, Advanced Course*

Professor BUCHER.

Three hours. Second semester. Elective for approved Juniors, Seniors, and Graduates.

21, 22. *Organic Preparations, Advanced Course*

Professor BUCHER.

Three hours. Through the year. Elective for approved Juniors, Seniors, and Graduates.

23, 24. *Inorganic Preparations, Advanced Course*

Professor BUCHER.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 7, 8.

25, 26. *Research Work in Chemistry*

Professor BUCHER.

Three or more hours. Through the year. Elective for Graduates.

27, 28. *Conference on Special Topics in Chemistry*

Professor BUCHER.

One hour. Through the year. Elective for approved students.

29, 30. *Conference on Special Topics in Chemistry*

Professor APPLETON.

One hour. Through the year. Elective for approved students.

31, 32. *Industrial Chemistry and Research*

Professor APPLETON.

Three or more hours. Through the year. Elective for approved Graduates.

VII. CIVIL ENGINEERING ‡

JOHN EDWARD HILL, C.E.M., Sc.D., *Professor of Civil Engineering*

HARDY CROSS, Sc.B., C.E.M., *Assistant Professor of Civil Engineering*

LEIGHTON TEETERICK BOHL, Sc.B., *Instructor in Civil Engineering*

1a, 1b; 2a, 2b. *Surveying*

Theory and practice of plane surveying; use of tape, compass, level, and transit; adjustment of instruments; pen topography; contour drawing; conventional signs; plotting. *Professor HILL, Mr. BOHL, and Assistants.*

Three hours and two hours, and one hour and two hours. Through the year. Elective for students who have credit for Mathematics 17 and Mechanical Drawing 2. Parts a and b may not be elected separately. First semester, *Mon., Tu., Th., at 11.20; Mon., Th., 2 to 5.* Second semester, *Mon. at 11.20; Mon., Th., 2 to 5.*

4. *Surveying, Advanced Field Work*

Use of stadia, plane table, and barometer; precise base-line measurement with steel tape; triangulation; topography. *Professors HILL and CROSS, Mr. BOHL, and Assistants.*

One hour. Spring recess. Elective for students who have credit for 1 and are taking 2.

6, 7, 8, 9. *Railroad Engineering*

Theory, location, construction, and economics of railroad engineering. Lectures, recitations, field work, and drafting. Second semester, railroad curves and practical problems. First semester, actual location of a line about two miles long, map, and estimate of cost. Second semester, railroad track and track work; maintenance of way department; economics of location. First semester, earthwork and its cost; rock excavation; tunneling. *Professors HILL and CROSS, Mr. BOHL.*

Two, three (six hours of field work), two, and two hours. Second, first, second, and first semesters. Courses 6 and 7 are elective for students who have credit for 2. Courses 8 and 9 are elective for Juniors and Seniors. Second semester, *Tu., Th., at 11.20.* First semester, *Wed., 9.20 to 5.* Second semester, *Tu., Th., at 9.20.* First semester, *Fri. at 9.20; Mon., 2.20 to 5.20.*

10. *Geodesy*

Problems in geodetic surveying, with sufficient theory for a proper

‡ All courses in this department are required for the degree of Bachelor of Science in Civil Engineering.

understanding of the formulas used. Lectures, recitations, and computations. *Professor HILL.*

Two hours. One hour of recitation and two hours of computations. Second semester. Elective for students who have credit for 4, and Astronomy 5. *Wed. at 11.20; Tu., 2.20 to 4.20.*

12. *Highway Engineering*

Economics and location of country roads; surveys, grades, drainage, and foundations; construction and maintenance; economics and design of pavements; dust prevention and preservation of macadam roads; use of bituminous materials in the construction and maintenance of roads; methods of testing road materials; roads and pavements in foreign countries; systems of administration and maintenance; highway laws. Lectures, recitations, inspection trips, and seminary work. *Mr. BOHL.*

Three hours. Second semester. Elective for Sophomores, Juniors, and Seniors. *Mon., Tu., Th., at 8.*

13. *Hydraulic Engineering*†

Consideration of water supply mainly from a sanitary standpoint. A general course designed to give the chemical and biological aspects of water supply without laboratory work. Lectures, recitations, and seminary work. *Professor HILL.*

Two hours. First semester. Elective for Juniors and Seniors. *Mon., Th., at 10.20.*

15. *Theory of Structures*

Theory of statically determinate structures, as illustrated by the plate girder and bridge and roof trusses. Assumptions necessary in the more common cases of statical indetermination. Elements of the elastic theory of structures and applications. Analytical and graphical methods. The object is to develop accuracy in the application of the principles of mechanics to the practical problems of structural design and to establish a correct idea of the interrelation of theoretical investigations and practical details. Lectures, recitations, computations. *Professor CROSS and Mr. BOHL.*

Five hours. First semester. Elective for students who have credit for Mechanics 2. *Tu., Wed., Th., at 8; Tu., Wed., at 9.20.*

† Courses 13, 30, and 32 cover the general subject of sanitation.

19. *Bridge Design*

Complete design and shop details of a through plate girder railway bridge or similar structure, accompanied by lectures and discussions. Individual data are given, business-like methods are required, and a practical attitude towards the work is encouraged. Lectures, computations, drafting. *Professor CROSS and Mr. BOHL.*

Three hours. One hour of recitation and four hours of drafting, or six hours of drafting. First semester. Elective for students who have credit for Mechanical Drawing 4, and have credit for or are taking 15. *Tu., 11.20 to 1.20; 2.20 to 6.20.*

20. *Bridge Design*

Theory and practice of truss detailing. General and working drawings are prepared for a pin or riveted truss bridge for highway or railway traffic and for a timber or steel roof truss, the work being adapted to the needs of the class. Erection, shop practice, specifications, and other points not covered in 15 are discussed. Lectures, computations, drafting. *Professor CROSS and Mr. BOHL.*

Three hours. One hour of recitation and four hours of drafting, or six hours of drafting. Second semester. Elective for students who have credit for 15 and 19. *Tu., 11.20 to 1.20; 2.20 to 6.20.*

22. *Masonry Design*

Theory of dams, arches, retaining walls, and similar structures. Special attention given to the theory of reinforced concrete. Properties of concrete. Design of a dam, an arch, and of several reinforced concrete structures. Lectures, recitations, computations, drafting. *Professor CROSS and Mr. BOHL.*

Five hours. Two hours of recitation and six hours of drafting. Second semester. Elective for students who have credit for 15, and Mechanical Drawing 4. *Mon. at 10.20; Th., 10.20 to 1.20; 2.20 to 6.20.*

24. *Foundations*

Methods employed and results to be expected in foundation work. Special attention given to the more common cases. Lectures and recitations. *Professor CROSS.*

One hour. Second semester. Elective for students who have credit for Mechanics 2. *Mon. at 9.20.*

26. *Contracts and Specifications*

Law of contracts. Practical considerations in contracting. Preparation

of specifications. Interpretation of contracts. Lectures and recitations. *Professor CROSS.*

One hour. Second semester. Required of all candidates for the degree of Bachelor of Science. *Th. at 9.20.*

28. *Engineering Jurisprudence*

The legal and some of the economic problems involved in engineering work. The object is to emphasize the importance of these considerations in the solution of technical problems and to interest the student in further investigation. Lectures and recitations. *Professor CROSS.*

One hour. Second semester. Elective for Juniors and Seniors. *Tu. at 9.20.*

30. *Hydraulic Engineering* ‡

Consideration of water supply mainly from an engineering standpoint. Irrigation, pumps and pumping machinery; construction of dams and reservoirs. Lectures, recitations, and seminary work. Supplements Mechanics 3, which gives the theoretical treatment of the subject. *Professor HILL.*

Two hours. Second semester. Elective for students who have credit for Mechanics 3. *Tu., Fri., at 10.20.*

32. *Sanitary Engineering* ‡

Theory of sewerage, treatment and disposal of sewage; stream pollution; house drainage and its appliances; garbage collection and disposal; design of sanitary works. Lectures, recitations, drafting, and seminary work. *Professor HILL.*

Three hours. Second semester. Elective for students who have credit for Mechanics 3. *Wed., Fri., at 9.20; Mon., 2.20 to 5.20.*

34. *Hydraulic Surveying (Applied Hydraulics)*

Methods of surveying applicable to river and harbor work. Methods of measuring and rating the flow of streams. Actual measurement of the discharge of a stream by means of the current meter, weir, and floats. Recitations and field work. *Mr. BOHL.*

One hour. Three hours of recitation or eight hours of field work last third of second semester. Elective for students who have credit for 2 and Mechanics 3. *Mon., Wed., Fri., at 11.20; or Tu., 9.20 to 5.20.*

‡ Courses 13, 30, and 32 cover the general subject of sanitation.

35, 36. *Thesis*

A thesis is required of all candidates for the degree of Bachelor of Science in Civil Engineering. The thesis must embody either a design or a review of an engineering plant, appliance, process, or structure, or the results of an experimental investigation.

VIII. ECONOMICS †

HENRY BRAYTON GARDNER, PH.D., *Professor of Economics*

JAMES MARVIN MOTLEY, PH.D., *Associate Professor of Economics*

1. *Elementary Economics*

Affords an outline and discussion of the fundamental principles of the subject. *Professors GARDNER and MOTLEY.*

Three hours. In connection with Social and Political Science 1 constitutes a year course required in Sophomore, Junior, or Senior year of candidates for the degree of Bachelor of Arts, and in Sophomore year of candidates for the degree of Bachelor of Science. Elective for others. Beginning with the class entering in 1911, required in Sophomore, Junior, or Senior year, of candidates for the degree of Bachelor of Philosophy. The combined courses will be given in two sections. For the first section Economics will be given in the first semester and Social and Political Science in the second semester. *Tu., Fri., Sat., at 10.20.* For the second section Social and Political Science will be given in the first semester and Economics in the second semester. *Mon., Wed., Fri., at 12.20.* Students must indicate their choice of section on the registration card.

5, 6. *Money and Banking*

Principles of money; recent monetary history, particularly of the United States; systems of the leading industrial nations; present problems. Principles of banking; recent banking history, particularly of the United States; systems of the leading industrial nations; present problems, with special reference to the problem of the reform of the banking system in the United States. *Professor GARDNER.*

Three hours. Two hours of attendance. Through the year. *Wed., Fri., Sat., at 11.20.*

7. *Socialism and Labor Problems*

A brief review of the historically important socialistic schemes; an

† The courses in this department other than 1 are open only to students who have credit for Economics 1, and Social and Political Science 1.

analysis and criticism of the leading socialistic theories, with special emphasis upon present day proposals; the rise of the trade union and the influence of collective bargaining; labor problems in the United States. *Professor MOTLEY.*

Three hours. First semester. *Mon., Tu., Th., at 11.20.*

10. *Tariff, Reciprocity, and Shipping Subsidies*

The development of the American system of protection and its effect upon domestic industry and international commerce; an analysis and criticism of arguments for protective tariff and for free trade; reciprocity agreements; policies of leading nations with regard to state aid to shipping. *Professor MOTLEY.*

Three hours. Second semester. *Mon., Tu., Th., at 11.20.*

11, 12. *Public Finance and Financial History*

General principles of public finance; revenues and expenditures of leading industrial nations; public enterprises in their financial aspects; principal forms of taxation and their effects; public debts. Special attention will be given to the financial history of the United States from the adoption of the Constitution to the present day. *Professor GARDNER.*

Three hours. Through the year. *Tu., Th., Sat., at 12.20.*

[13. *Statistics*]

The principles of statistics as a method of recording and presenting social and economic facts; the possibilities and limitations of the statistical method; the interpretation of statistics; some of the important results of statistical investigation.

Three hours. First semester. Not offered in 1913-14.

[14. *Accounting*]

The importance of accounting in economic life and the principles which underlie it; the accounting systems of public bodies and quasi-public corporations; the interpretation of financial statements.

Three hours. Second semester. Not offered in 1913-14.

15. *Trade and Transportation*

The organization of international trade and the place of the United States in the commerce of the world; a description of the existing trade relations of the United States, of the conditions which control

them, and the probable lines of their development, the organization and development of the internal trade of the United States with special reference to railway transportation and the problems to which it has given rise. *Professor* MOTLEY.

Three hours. First semester. *Mon., Wed., Th., at 10.20.*

16. *Corporations and Corporation Finance*

The corporation as a form of business organization; its formation and promotion; capitalization; forms of securities; the stock market; state and federal control and similar topics. *Professor* MOTLEY.

Three hours. Second semester. *Mon., Wed., Th., at 10.20.*

21, 22. *Investigation of Special Topics*

Intended to afford a training in methods of gathering, handling, and presenting data in the study of economic life and problems. Each student is assigned a separate topic. *Professors* GARDNER and MOTLEY.

Three hours. Six hours of attendance. Through the year. Either semester may be elected independently. Students intending to take either of these courses must secure the permission of the head of the department not later than December 1 or June 1 in the semester preceding that in which they desire to take the course. It is expected that as a rule these courses will be taken in connection with lecture courses. Hours to be arranged with the instructor.

23, 24. *Economic Seminary*

Study of important aspects of economic theory, history, and current problems of economic life. *Professors* GARDNER and MOTLEY.

Three hours. Two hours of attendance. Through the year. Elective for Seniors and Graduates who have taken advanced work in Economics. Hours to be arranged with the instructor.

IX. EDUCATION ‡

WALTER BALLOU JACOBS, A.M., *Professor of Education*

STEPHEN SHELDON COLVIN, PH.D., *Professor of Educational Psychology*

1. *History of Education*

Education among the early culture peoples; development of education in Greece and Rome; early Christian education; the Renaissance

‡ Courses 1 and 2 treat education in its relation to the individual and to the social and political whole; interest in them is therefore not limited to those who intend to teach. At the same time they form an introduction to the more advanced courses in Education. Those who intend to teach are advised to elect these courses during the Junior year.

Courses 1-4 cover the usual requirements for certificates of the First Grade except

and humanism; the beginnings of modern education; the naturalistic movement, Rousseau; the psychological movement, Pestalozzi, Froebel, Herbart; the scientific movement, Spencer and Huxley; education in the United States; recent sociological tendencies; the movement for industrial education. *Professor JACOBS.*

Three hours. First semester. Elective for Juniors, Seniors, and Graduates, and by permission. *Mon., Wed., Fri., at 12.20.*

2. *Principles of Education*

The meaning and aim of education; its function as a social institution; physical education—heredity, growth, and development; intellectual education—its aim, the choice of studies, their organization into a consistent whole; the principles of method in teaching; moral education. Education as limited by environment and as gaining the mastery over environment. *Professor JACOBS.*

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates, and by permission. *Mon., Wed., Fri., at 12.20.*

3. *Psychology of Education*

A study of the general principles of learning and a discussion of habit formation, and of the various activities of mind involved in the process of education,—sensation and perception, imagination, association and memory, attention and interest, the higher mental processes. The course also discusses the problem of transfer in training; work and play; fatigue; economical methods of learning; tests of mental capabilities. *Professor COLVIN.*

Three hours. First semester. Elective for students who have credit for 1 or 2, or who are taking 1, and for Graduates. *Mon., Tu., Th., at 11.20.*

4. *Practical Introduction to Teaching*

The elements of method and their application in practice teaching; observation of good teaching; management and discipline of classes; administration of education; school buildings, their proper construction, maintenance, and equipment; medical inspection; school law. *Professor COLVIN.*

where practice teaching or experience is demanded. In Rhode Island a certificate is required of all teachers in schools supported in whole or in part by public money. Certificates of the First Grade are granted without examination to those who have completed courses 1-4 and hold a college degree. Due credit is also given for separate courses.

Certificates, authorizing the holders to teach in the evening schools of the state, are issued without examination to students who have completed three years of regular work, including Education 1, 2.

For further explanation of the work of this department, see page 158.

Three hours. Second semester. Elective for students who have credit for or are taking other courses in Education, and for Graduates. *Mon., Tu., Th., at 11.20.*

5. *Secondary Education; ‡ Organization and Function*

The place of the high school and academy in the American system of education; comparison with secondary schools in Germany, France, and England; the administration of secondary education; its relation to the colleges and universities; meaning and value of the various secondary school studies, and their organization into a curriculum; high schools; the social life of the high school and academy; high school extension. *Professor JACOBS.*

Three hours. Two hours of attendance. First semester. Elective for Graduates and experienced teachers, and for approved Seniors. *Wed., 3.20 to 5.20.*

6. *Secondary Education; ‡ Methods and Processes*

The principles of method as applied to teaching in secondary schools; the resources at the command of the teacher; the preparation of teachers. The following will receive special attention as typical secondary school studies: English, Modern Languages, and Latin; History, Science, and Mathematics; the Manual Arts. *Professor JACOBS.*

Three hours. Two hours of attendance. Second semester. Elective for Graduates and experienced teachers, and for approved Seniors. *Wed., 3.20 to 5.20.*

7, 8. *Problems in Practical Teaching; Secondary Schools*

Practice teaching in the Providence High Schools. Observation, reports, and conferences. Designed for those who wish to become instructors in colleges, teachers or principals in secondary schools, or superintendents of schools. *Professor COLVIN, assisted by the Supervising Teachers.*

Three hours. Through the year. Elective for Graduates who have credit for elementary courses in Education and are taking 5 and 6, and for approved Seniors. *Sat. at 9.05, and at other hours to be arranged.*

9, 10. *Problems in Practical Teaching; Grammar Grades*

Practice teaching in the Providence Grammar Schools. Observation, reports, and conferences. Designed especially for those who wish to become grade teachers, principals of grammar schools, or superin-

‡ In the courses in Secondary Education, Professor Jacobs will be assisted by the following Lecturers on Method:

CHARLES EDWARD DENNIS, PH.D., *Latin.*
JESSE MADISON GATHANY, A.M., *History.*

ERNEST COBB, PH.B., *English.*
RICHARD OWEN DUMMER, A.M., *Physics and Chemistry.*

tendents of schools, but also for those who wish to teach in secondary schools. The following studies receive special attention: Arithmetic, Language, History, and Geography. *Professor COLVIN, assisted by the Supervising Teachers.*

Three hours. Through the year. Elective for Graduates who have credit for elementary courses in Education and are taking 11, 12, and for approved Seniors. *Mon. at 3.20*, and at other hours to be arranged.

11, 12. *Experimental Education*

A laboratory course in educational psychology. The principal methods which have been used in measuring mental and physical capabilities will be reviewed and discussed. Under guidance the student will work through a number of the most important of these methods in the laboratory. He will also conduct a specific experiment in some phase of experimental education, report on his results from time to time, and finally set these forth in the form of a thesis. *Professor COLVIN.* Three hours. Through the year. Elective for Graduates and experienced teachers.

13, 14. *Educational Administration*

Problems of educational administration in the State of Rhode Island and in the cities and towns of the state. In the study of these problems the varied experiences and experiments of other states and of European countries will be considered. Out of this study will be developed the principles underlying national and municipal administration of education. *Professor JACOBS.*

Three hours. Through the year. Two hours of attendance. Elective for Graduates, experienced teachers, principals, and superintendents, and for approved Seniors. *Th., 4 to 6.*

15, 16. *Seminary in Education*

Studies in current educational problems. The seminary will be conducted in two parts in successive hours. *Part A.* Reviews of the latest books upon education and related subjects, and studies of special problems assigned to individual students for investigation and experiment. *Part B.* A more intensive study of certain problems of current interest. For 1913-14 the subjects will be: First semester, Means of Measuring Educational Products. Second semester, Sociological Phases of Education. As subjects are not repeated, the course may be elected for successive years. *Professor JACOBS.*

Three hours. Through the year. Two hours of attendance. Required of student-

teachers. Elective for Graduates and experienced teachers, and for approved Seniors. A or B may be elected independently as a one-hour course. *Sat., 10.20 to 12.20.*

X. ENGLISH ‡

WALTER COCHRANE BRONSON, A.M., LITT.D., *Professor of English Literature*

LINDSAY TODD DAMON, A.B., *Professor of English Literature and Rhetoric*

ALBERT KNIGHT POTTER, A.M., *Associate Professor of the English Language*

GEORGE WYLLYS BENEDICT, PH.D., *Associate Professor of English*

THOMAS CROSBY, A.M., *Associate Professor of English and Public Speaking*

HENRY BARRETT HUNTINGTON, A.B., *Associate Professor of English*

WILLIAM THOMSON HASTINGS, A.M., *Assistant Professor of English*

WALTER CLARKE PHILLIPS, A.M., *Instructor in English*

JOHN HENRY WILLIAMS, A.B., *Instructor in English*

KARL HENRY KOOPMAN, A.B., *Assistant in English*

JOHN THOMAS OWENS, PH.B., *Assistant in English*

BENJAMIN CROCKER CLOUGH, A.B., *Assistant in English*

1. *Rhetoric and Composition*

Designed primarily to teach clear and correct expression. Training in the fundamentals of prose composition. Lectures, recitations, and themes. *Professors* DAMON, BENEDICT, and HASTINGS, *Messrs.* PHILLIPS, WILLIAMS, KOOPMAN, OWENS, and CLOUGH.

Three hours. First semester. Required of all Freshmen. *1st, 2d, and 3d div., Mon., Tu., Th., at 11.20; 4th, 5th, and 6th div., Mon., Wed., Fri., at 12.20; 7th div., Wed., Fri., Sat., at 11.20; 8th div., Mon., Tu., Th., at 3.20.* Candidates for the degree of Bachelor of Science will register in divisions 4 and 5.

2. *Rhetoric and Composition*

A continuation of 1. Designed primarily to give training in the method, structure, and style of the chief forms of prose composition.

‡ Credit for English 1 or 2 is a prerequisite for admission to all other courses in the department except 48.

Courses 1-16 may not be counted in fulfilment of the requirement of a year in English Literature.

Lectures, recitations, and themes. *Professors* BENEDICT and HASTINGS, *Messrs.* PHILLIPS, WILLIAMS, KOOPMAN, OWENS, and CLOUGH.

Three hours. Second semester. Required in the Freshman year of all candidates for the degree of Bachelor of Science, and in the Sophomore year of all candidates for the degree of Bachelor of Arts or Bachelor of Philosophy. Students electing 3, 4 may substitute 3 for 2. Students taking 7, 8 instead of Freshman mathematics may omit 2 in their Sophomore year and take 3 in their Junior year, if they obtained at least the grade of C in 1. *1st and 2d div., Mon., Tu., Th., at 11.20; 3d, 4th, and 5th div., Mon., Wed., Fri., at 12.20; 6th div., Wed., Fri., Sat., at 11.20; 7th div., Mon., Tu., Th., at 3.20.* Freshman candidates for the degree of Bachelor of Science will register in sections 3 and 4. Students repeating 1 or 2 will register in sections 5 and 6.

48. *English Literature from the Beginning to 1798*

An outline course in the history of English literature to the end of the eighteenth century, with reading and study of the greater writers. *Professors* BRONSON and DAMON.

Three hours. Second semester. Required in the Freshman year of all candidates for the degree of Bachelor of Arts or Bachelor of Philosophy. *1st and 2d div., Mon., Tu., Th., at 11.20; 3d div., Mon., Wed., Fri., at 12.20.*

3, 4. *English Composition, Second Course*

Intended to supplement the training given in 1, 2, and to develop further the power of exact and lucid statement. Lectures, recitations, and prescribed reading; weekly themes and other written exercises involving a variety of specific tasks such as abstracts, reports, scientific, technical, and historical papers, criticisms, stories, personal essays, etc. *Professor* HASTINGS.

Three hours. Through the year. Elective for Sophomores and Juniors. Students electing 3, 4 may substitute 3 for 2. *Mon., Wed., Th., at 10.20.*

5, 6. *English Composition, Advanced Course*

Intended to develop ease of style and clarity and vigor of thought. Frequent practice in composition and criticism. *Professor* DAMON.

Three hours. Through the year. Elective for Juniors and Seniors. With the consent of the instructor the course may be repeated. *Tu., Fri., Sat., at 10.20.*

7, 8. *Argumentative Composition*

Intended to develop the power of handling argumentative topics cogently and persuasively. Lectures on the principles and forms of argumentative composition; frequent practice in brief-drawing and

the writing of forensics and less formal arguments. *Professor HUNTINGTON.*

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors; required in the Sophomore year of candidates for the degree of Bachelor of Philosophy who did not elect to take mathematics in their Freshman year. *Tu., Fri., Sat., at 10.20.*

10. *Debate*

Intended to train students in correct and vigorous oral presentation of ideas. *Professor HUNTINGTON, with the coöperation of the Professors of Economics, Social and Political Science, History, and Public Speaking.*

Three hours. Second semester. Elective for a limited number of Juniors and Seniors who have credit for 7. With the consent of the instructor the course may be repeated. *Mon., 3.20 to 5.20; Fri., 2.20 to 4.20.*

11, 12. *Public Speaking*

Principles of voice culture; vocal interpretation of literature; extempore speaking. *Professor CROSBY.*

Three hours. Through the year. Elective for Sophomores and Juniors. *Mon., Tu., Th., at 11.20.*

[13, 14. *Public Speaking, Advanced Course*]

Practice in reading lyric, narrative, and dramatic literature, in extempore speaking, and in the composition and delivery of the common forms of the occasional address. Special attention to securing right tone-production and to improvement in speech.

Three hours. Through the year. Elective for students who have attained at least the grade of C in 11, 12. Not offered in 1913-14.

15, 16. *Old English*

Essentials of Anglo-Saxon grammar; prose selections; Beowulf. *Professor BENEDICT.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. *Tu., Th., Fri., at 4.20.*

17, 18. *Chaucer*

A study of the poems as literature, with sufficient attention to Middle English grammar to enable the student to read intelligently. Selections from Langland and Gower. *Professor POTTER.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. *Tu., Th., Fri., at 3.20.*

21, 22. *The Drama in England to 1642*

The drama as a literary type and its history in England to the closing of the theatres. *Professor POTTER.*

Three hours. Two hours of attendance. Through the year. Elective for students who have credit for a year's work in English Literature. In 1913-14 conducted as the Seminary in English Literature.

23, 24. *The Modern English Drama*

The history of the English drama from 1660 to the present time. Reading and discussion of the work of the chief playwrights from Wycherley and Congreve to Jones, Pinero, and Shaw. *Professor CROSBY.*

Three hours. Through the year. Elective for students who have credit for a year's work in English Literature. *Tu., Th., Sat., at 12.20.* Not to be offered in 1914-15.

25, 26. *Shakspeare*

Careful study of a few plays with special attention to exact interpretation. In 1913-14 the plays read will be *Macbeth, The Winter's Tale, King Lear, Richard II, Antony and Cleopatra, Twelfth Night.* *Professor HASTINGS.*

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. *Wed., Fri., Sat., at 11.20.* Not to be offered in 1914-15.

27, 28. *Shakspeare*

A brief survey of the drama before Shakspeare. Shakspeare as playwright and poet. Reading of all the plays; careful study of the great tragedies. Lectures, discussions, and reports on assigned topics. *Professor POTTER.*

Three hours. Through the year. Elective for Juniors and Seniors. *Tu., Fri., Sat., at 10.20.*

31, 32. *English Literature from 1660 to 1798*

The Restoration drama; the classical school; development of the essay and the novel; the beginnings of romanticism. Dryden, Wycherley, Congreve, Addison, Swift, Defoe, Richardson, Fielding, Pope, Gray, Collins, Smollett, Sterne, Johnson, Goldsmith, Burke, Burns. First semester, *Professor HUNTINGTON.* Second semester, *Professor BRONSON.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Through the year. Elective for students who have credit for a

year's work in English Literature. *Mon., Th., Fri., at 9.20.* Not to be offered in 1914-15.

[33, 34. *The English Novel*]

The history of the English novel from 1700 to 1900; reading and discussion of the greater English novelists, including Defoe, Richardson, Fielding, and Smollett in the eighteenth century, and Scott, Jane Austen, Dickens, Thackeray, Charlotte Brontë, George Eliot, Meredith, Hardy, and Stevenson in the nineteenth century.

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Through the year. Elective for students who have credit for a year's work in English Literature. Not offered in 1913-14.

35. *English Literature from 1798 to 1832, Poetry*

The reaction from classicism; the influence of the French Revolution; liberalism and individualism in English poetry; contemporary criticism. Wordsworth, Coleridge, Southey, Scott, Byron, Shelley, Keats, Landor. *Professor BENEDICT.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. First semester. Elective for Sophomores, Juniors, and Seniors. *Mon., Tu., Th., at 11.20.*

36. *English Literature from 1798 to 1832, Prose*

The development of the romantic novel; the rise of the reviews and quarterlies; essays and miscellaneous prose. Scott, Jane Austen, Coleridge, Jeffrey, De Quincey, Lamb, Hazlitt. *Professor BENEDICT.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Second semester. Elective for Sophomores, Juniors, and Seniors. *Mon., Tu., Th., at 11.20.*

37. *English Literature from 1832 to 1892, Prose*

Modifications of romanticism; realism; the influence of science and democracy; tendencies at the end of the century. Essays, history, miscellaneous prose, the novel. Macaulay, Carlyle, Ruskin, Arnold, Pater, Huxley, Dickens, Thackeray, Charlotte Brontë, George Eliot, Hardy. *Professors BRONSON and DAMON.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. First semester. Elective for Sophomores, Juniors, and Seniors. *1st div., Mon., Wed., Fri., at 12.20; 2d div., Wed., Fri., Sat., at 11.20.*

38. *English Literature from 1832 to 1892, Poetry*

Modifications of romanticism; Pre-Raphaelitism; the influence of sci-

ence and democracy; tendencies at the end of the century. Tennyson, Browning, Arnold, Clough, Rossetti, Morris, Swinburne. *Professor DAMON.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Second semester. Elective for Sophomores, Juniors, and Seniors. *Wed., Fri., Sat., at 11.20.*

39, 40. *American Literature*

American literature from the beginning to 1900, in its relation to American life and to English literature. A rapid survey of the literature of the seventeenth and eighteenth centuries; reading and study of the writers of the nineteenth century, with special attention to Irving, Cooper, Bryant, Poe, Longfellow, Emerson, Hawthorne, Whittier, Lowell, Holmes, and Whitman. *Professor BRONSON.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Through the year. Elective for students who have credit for a year's work in English Literature. *Tu., Wed., Sat., at 9.20.* Not to be offered in 1914-15.

[42. *Contemporary English and American Literature*]

A study of the tendencies of modern thought through the literature that reflects it. Reading and discussion of contemporary poets, novelists, and essayists.

Three hours. Second semester. Elective for Juniors and Seniors. Not offered in 1913-14.

[43, 44. *Seminary in English Literature*][‡]

Three hours. Two hours of attendance. Through the year. Elective for Graduates, and for a limited number of Seniors who have attained at least the grade of C in two years' work in English Literature. Not offered in 1913-14.

XI. GEOLOGY

CHARLES WILSON BROWN, A.M., *Associate Professor of Geology*

ALBERT CARY HAWKINS, A.M., *Instructor in Geology*

1, 2. *General Geology*

A study of the development of the earth, with special reference to the North American Continent, including a discussion of earth origin, of the work of surface and interior agencies in the production of vari-

[‡] See Course 21, 22.

ous topographic forms, rock types and their changes, crustal deformation and continent making, together with a survey of ancient life types and the principles of organic evolution they illustrate. First semester, physiographic and dynamic geology. Second semester, stratigraphy and paleontology.

Three hours. Through the year. Elective for Undergraduates. *Mon., Wed., Th., at 10.20.*

3, 4. *General Geology*

A shorter course than 1, 2, with emphasis upon the discussion of problems that may arise in engineering work. Special attention in map and field study to topographic features resulting from the various geologic agencies, and to the study of hand specimens of ores, minerals, and rock types and their uses. May be continued in 8.

Two hours. Four hours of attendance. Through the year. Required in the Junior year of candidates for the degree of Bachelor of Science in Civil Engineering. Not elective. First semester, *Mon. at 10.20; Fri. at 9.20.* Second semester, *Mon., Wed., at 10.20.*

6. *Economic Geography and Conservation*

A discussion of the laws of meteorology, and the relation of climate to soil products and to man and his development; the physiographic controls that influence the development of transportation and commerce; agriculture, forests, water power, and water supply; the location and proper development of cities; and the geographic distribution of ore deposits and other natural resources and their conservation. May be continued in 8, or 11, 12.

Three hours. Second semester. Elective for Undergraduates who have credit for 1 or 5, or who presented Physiography for admission, except Freshmen and Sophomores who are taking another course in the department. *Tu., Wed., Sat., at 9.20.*

7. *Economic Geology*

A discussion of the theories concerning the origin of ore deposits; the geologic relations, and the location, distribution, and production of ores.

Three hours. First semester. Elective for Undergraduates who have credit for 1, 3, or 9, 10.

8. *Stratigraphy and Structural Geology*

An introductory course in field geology. Study of areal and struc-

tural geology in igneous and sedimentary areas from geologic reports. Practice in the construction of geologic maps and work in the field areas.

Three hours. Second semester. One conference hour to be arranged, and five hours' work in the laboratory or field. Elective for Undergraduates who have credit for 1, 3, or 5.

9, 10. *Mineralogy and Petrography*

An introductory course in the macroscopic and microscopic study of minerals, ores, and rocks. First semester, discussion of crystal forms and the laws of crystallography, determination by physical properties and blow-pipe analysis of the more common minerals and ores. Second semester, study of the optical properties of the rock-forming minerals, rocks, and ores, under the polarizing microscope; determination of rock types; discussion of the fundamental principles of the origin and classification of rocks and ores.

Three hours. Six hours of attendance. Through the year. Elective for Sophomores, Juniors, and Seniors. *Tu., Th., at 11.20.*

11, 12. *Research in Geology and Geography*

Advanced work in the library, laboratory, or field, in the various phases of geology or geography as outlined in the preceding elementary courses. The region in which the University is situated offers in a small compass both simple and complex problems in field research in structural, petrographic, mineralogic, paleontologic, and stratigraphic geology. Arranged to meet the requirements of individual students.

One to six hours. Through the year. Elective for Graduates and approved Undergraduates. Either semester may be elected independently.

[13. *The Stratigraphy and Paleontology of the Narragansett Basin*]

Designed to give, by study in the library and field, a detailed knowledge of the conditions of origin, relationships, structure, and fossil content, of the different groups of the systems represented in the Narragansett Bay region.

Three hours. One hour of attendance. First semester. Elective for Juniors, Seniors, and Graduates who have credit for Geology 1, 2, and 8, or their equivalents. Alternates with 7. Not offered in 1913-14.

XII. GERMANIC LANGUAGES AND LITERATURES†

CAMILLO VON KLENZE, PH.D., *Professor of the Germanic Languages and Literatures*

ASA CLINTON CROWELL, PH.D., *Associate Professor of the Germanic Languages and Literatures*

ROBERT MCBURNEY MITCHELL, A.B., *Instructor in German*

ALBERT EDWARD RAND, PH.D., *Instructor in German*

BERNARD KEENAN, A.M., *Instructor in German*

1, 2. *Elementary Course, First Year*

Reading, grammar, composition, conversation, dictation, sight reading. *Professor CROWELL, Messrs. MITCHELL and RAND.*

Three hours. Through the year. Elective for students who did not present German for admission. *1st div., Tu., Wed., Sat., at 9.20; 2d div., Tu., Th., Sat., at 12.20; 3d div., Mon., Th., Fri., at 9.20.*

3, 4. *Elementary Course, Second Year*

Reading of fairly difficult modern German stories, lyrics (von Klenze or Hatfield), and two dramas illustrating respectively the classical and the modern period, for example, Schiller's *Maria Stuart* and Hebbel's *Agnes Bernauer*. Review of grammar; composition; conversation based upon the texts read. *Professor CROWELL.*

Three hours. Through the year. Elective for students who have credit for 1, 2, or who presented elementary German (1 year) for admission. *Tu., Wed., Sat., at 9.20.*

5, 6. *Intermediate Course*

Reading of fairly difficult modern German stories, lyrics (von Klenze or Hatfield), and one or two dramas of the classical period. Review of grammar; composition; conversation based upon the texts read. *Messrs. MITCHELL and RAND.*

Three hours. Through the year. Elective for students who have credit for 3, 4, or who presented elementary German (2 years) for admission. *1st div., Wed., Fri., Sat., at 11.20; 2d div., Tu., Fri., Sat., at 10.20; 3d div., Mon., Wed., Th., at 10.20.*

† Students wishing recommendations from the department to teach German must pass a special examination designed to test their ability to write and to understand German, and, to some extent, to use the spoken language.

7, 8. *Advanced Course in Standard Authors, Classical and Modern*

One drama of Goethe or Schiller, one drama of Grillparzer, one drama of Hebbel, von Klenze's *Deutsche Gedichte*, a modern novel like Sudermann's *Frau Sorge*. Talks in German on the history of German literature; oral and written reports in German. *Messrs. RAND and KEENAN.*

Three hours. Through the year. Elective for students who have credit for 5, 6, or who have passed 3, 4, with grade B; or who presented intermediate German for admission. *1st div., Mon., Tu., Th., at 11.20; 2d div., Tu., Th., Sat., at 8.*

9, 10. *Modern Prose*

Aims to train the student in reading, speaking, writing, and understanding modern German. Reading of texts selected from history and science; for example, Freytag, Helmholtz, Nichols's *Modern German Prose*, Paszkowski's *Lesebuch zur Einführung in die Kenntnis Deutschlands und seines geistigen Lebens*, 5th ed., and a text (such as Mosher's *Willkommen in Deutschland*) to introduce the student to the actual language of modern daily life. Talks in German; oral and written reports in German; letter-writing, composition, and conversation. *Professor VON KLENZE and Mr. MITCHELL.*

Three hours. Through the year. Elective for students who have credit for 5, 6, or who have passed 3, 4, with grade B; or who presented intermediate German for admission. *1st and 2d div., Tu., Fri., Sat., at 10.20.*

[11, 12. *German Lyrical Poetry*]

Introduces the student to the various aspects of the inner life of the German people as reflected in the lyrical poetry of the last two centuries. Lectures in German; oral and written reports in German.

Three hours. Through the year. Elective for students who have credit for 3, 4, or 7, 8, or 9, 10. Not offered in 1913-14.

[13, 14. *The German Short Story*]

The development of the short story into an art form. The study of the "Novelle" as represented by Kleist, Ludwig, Heyse, Storm, C. F. Meyer, Keller, and others, with frequent reference to the chief writers of the short story in France, England, and America. Lectures and reports in German and English.

Three hours. Through the year. Elective for students who have credit for 3, 4, or 7, 8, or 9, 10. Not offered in 1913-14.

15, 16. *The German Drama of the Nineteenth Century*

Kleist, Grillparzer, Hebbel, Hauptmann, and Sudermann. A study of the development of the German drama from waning romanticism to realism, with frequent reference to the chief representatives of the modern drama in other countries. *Dr. RAND.*

Three hours. Through the year. Elective for students who have credit for 3, 4, or 7, 8, or 9, 10. *Tu., Wed. Sat., at 9.20.*

[17, 18. *Lessing and Schiller*]

Aims to introduce the student to the dramatic theory and practice of German classicism. Reading of one or two of Lessing's dramatic works and of several of the representative dramas of Schiller, especially *Wallenstein*. Discussions of the dramatic principles of the Greek and the English drama and of their influence upon Lessing and Schiller, with references to the dramatic theories of the nineteenth century. Lectures and reports in German and English.

Three hours. Through the year. Elective for students who have credit for 7, 8, or 9, 10. Not offered in 1913-14.

21, 22. *Goethe's Faust: Parts 1 and 2*

Interpretation of the text; study of the Faust legend and of other English and German dramas which present the Faust problem. Lectures and reports. *Professor CROWELL.*

Three hours. Through the year. Elective for Juniors and Seniors who have credit for 5, 6, and for others by permission. *Tu., Fri., Sat., at 10.20.*

[23, 24. *Goethe: A Study of His Life and Works*]

Lectures in German; reports on assigned topics; extensive reading.

Three hours. Through the year. Elective for students who have credit for 7, 8, or 9, 10. Not offered in 1913-14.

25, 26. *Outline History of German Literature*

Aims to acquaint the student with the most important movements in the evolution of German literary life. Lectures in German; reports on assigned topics; extensive reading. *Professor VON KLENZE.*

Three hours. Through the year. Elective for students who have credit for 7, 8, or 9, 10. *Tu., Th., Sat., at 12.20.*

[27, 28. *German Literature in the Nineteenth Century*]

A study of the literary life of Germany as an expression of German civilization in the nineteenth century. The literary output—Roman-

tic School, Young Germany, Naturalism, Realism, Neo-Romanticism — will be studied, with frequent references to prominent personalities in other domains of intellectual life, such as David Friedrich Strauss, Mommsen, Nietzsche, Wagner. Lectures in German; reports on assigned topics; extensive reading.

Three hours. Through the year. Elective for students who have credit for 7, 8, or 9, 10. Not offered in 1913-14.

[31. *Gothic*]

The Gothic language, with reading of extracts in Streitberg's *Gotisches Elementarbuch* or Braune's *Gotische Grammatik*.

Three hours. First semester. Elective for Graduates and approved Undergraduates. Not offered in 1913-14.

[32. *Old High German*]

Grammar and reading of selections in prose and verse. Some knowledge of Gothic expected. Braune's *Althochdeutsche Grammatik* and Braune's *Althochdeutsches Lesebuch*.

Three hours. Second semester. Elective for Graduates and approved Undergraduates. Not offered in 1913-14.

33. *Old Norse*

Grammar and reading of selections. Holthausen's *Altisländisches Elementarbuch*; Wilken's *Prosaische Edda*; Hildebrand's *Aeltere Edda*. Professor CROWELL.

Three hours. First semester. Elective for Graduates and approved Undergraduates. Students electing Old Norse should also take Germanic Mythology. *Mon., Tu., Th., at 3.20.*

34. *Germanic Mythology*

Primitive Germanic religion, customs, and ideas, in their relations to German literature. Mythological elements in German poetry. Discussions based on E. Mogk's *Germanische Mythologie*. Professor CROWELL. Three hours. Second semester. Elective for Graduates and approved Undergraduates. *Mon., Tu., Th., at 3.20.*

35, 36. *Middle High German*

The language of the Middle High German period, including an introduction to Germanic philology. Michel's *Mittelhochdeutsches Elementarbuch*; *Das Nibelungenlied*, *Minnesangs Frühling*, *Walter von*

der Vogelweide. Lectures in German. Outside reading. *Professor* VON KLENZE.

Three hours. Through the year. Elective for Graduates and approved Undergraduates. *Wed., Fri., Sat., at 11.20.*

41, 42. *Seminary in German Literature*

Aims to give training in modern methods of investigation and criticism. To be conducted in German. *Professor* VON KLENZE.

Three hours. Through the year. Elective for Graduates.

XIII. GREEK LITERATURE AND HISTORY

JAMES IRVING MANATT, PH.D., LL.D., *Professor of Greek Literature and History*

FRANCIS GREENLEAF ALLINSON, PH.D., *David Benedict Professor of Classical Philology*

FRANK THURSTON HALLETT, A.M., *Assistant in Greek*

A, B. *Elementary Course*

Designed to cover as much as possible of the entrance requirements, and thus to enable a student to take 1 in the following year if he completes by private study before the opening of the first semester the requirement in Homer, and before the opening of the second semester the requirement in the *Anabasis*. *Mr.* HALLETT.

Three hours. Through the year. Elective for students who did not present elementary and advanced Greek for admission. *Tu., Th., Sat., at 12.20.*

1. *Homer and the Greek Anthology*

Six books of the *Odyssey* in the original, with a general survey of the entire poem. Selections from the Elegiac, Iambic, and Lyric Poets. *Professor* MANATT.

Three hours. First semester. Elective for students who presented elementary and advanced Greek for admission, or who have credit for A, B, and have done the additional work indicated above. *Tu., Th., Sat., at 12.20.*

2. *Plato and Lysias*

Plato: *Apology* and *Crito*, with selections from *Phaedo*, and collateral readings from Xenophon's *Memorabilia* and the *Clouds* of Aristophanes. Lysias: *Orations* VII, XXII, XXIII, XXIV, with collateral reading of Xenophon's *Hellenica*, II. *Professor* ALLINSON.

Three hours. Second semester. Elective for students who have credit for 1. *Tu., Th., Sat., at 12.20.*

3. *Lucian and the Dramatic Poets*

Selections from Lucian. Lectures on the Greek drama. The *Oedipus Tyrannus* of Sophocles and collateral reading in the *Prometheus* of Aeschylus. *Professor ALLINSON.*

Three hours. First semester. Elective for Sophomores. *Mon., Wed., Th., at 10.20.*

4. *The Historians*

The eighth book of Herodotus, with collateral reading of the *Persians* of Aeschylus and Plutarch's *Themistocles*. The seventh book of Thucydides, with collateral reading of Plutarch's *Pericles* and *Nicias*. *Professor MANATT.*

Three hours. Second semester. Elective for Sophomores. *Mon., Wed., Th., at 10.20.*

5. *Epic Poetry*

The *Iliad*, xviii-xxiv, with a general study of the poem as a whole. Hesiod: selections from the *Theogony* and the *Works and Days*. Selected Homeric Hymns. *Professor MANATT.*

Three hours. First semester. Elective for Juniors and Seniors. *Wed., Fri., Sat., at 11.20.*

6. *The Drama*

Menander. Aeschylus: *Seven against Thebes*. Euripides: *Medea*. Aristophanes: *Frogs*. *Professor ALLINSON.*

Three hours. Second semester. Elective for Juniors and Seniors. *Wed., Fri., Sat., at 11.20.*

[7. *Lyric and Pastoral Poetry*]

Pindar: selected Olympian and Pythian Odes. Bacchylides, v, xvii, xviii. Theocritus: twelve *Idylls*.

Three hours. First semester. Elective for Juniors and Seniors. Not offered in 1913-14.

[8. *Plato, Aristotle, and Aeschylus*]

Plato: selections from the *Republic*. Aristotle: the *Constitution of Athens*. Aeschylus: the *Agamemnon*, with collateral reading of the rest of the *Oresteia*.

Three hours. Second semester. Elective for Juniors and Seniors. Not offered in 1913-14.

[9. *The Attic Orators*]

Selected speeches of Isaeus, Aeschines, and Demosthenes.

Three hours. First semester. Elective for Juniors and Seniors. Not offered in 1913-14.

[10. *Lucian and Pausanias*]

Three hours. Second semester. Elective for Juniors and Seniors. Not offered in 1913-14.

12. *Greek Composition*

Professor ALLINSON.

One hour. Second semester. Elective for Sophomores, Juniors, and Seniors.

13, 14. *Modern Greek*

Introduction to the language; readings from living Greek authors and Greek newspapers; conversation. Professor MANATT.

One hour. Through the year. Elective for Sophomores, Juniors, and Seniors.

15. *Greek Civilization*

The life of the Greeks from Homer to the second century after Christ, with special study of the political, social, and religious institutions of the classical period as illustrated by the literature, history, and monuments of art. Must be followed in the second semester by Latin 16, Roman Civilization. The two semesters together constitute the course in Classical Civilization. Professor ALLINSON.

Three hours. First semester. Required in the Freshman or Sophomore year of all candidates for the degree of Bachelor of Philosophy. Not elective. 1st div., Mon., Th., Fri., at 9.20; 2d div., Mon., Tu., Th., at 11.20.

17, 18. *Greek Seminary*

First semester, Aristophanes and the Comic Fragments, or Comparative Philology. (See Indo-European Philology 4.) Professor ALLINSON. Second semester, Pindar: Isthmian and Nemean Odes. Professor MANATT.

Three hours. Two hours of attendance. Through the year. Elective for Graduates and approved Seniors.

XIV. HISTORY ‡

WILLIAM MACDONALD, PH.D., LL.D., *George L. Littlefield Professor of American History*

THEODORE FRELINGHUYSEN COLLIER, PH.D., *Associate Professor of History*

1, 2. *Medieval and Modern History of Europe*

A general survey of the history of western Europe from the time of the barbarian invasions to the present. A narrative text-book supplemented by lectures, frequent written tests, written reports and abstracts on assigned reading, and topics for special investigation. *Professor MACDONALD.*

Three hours. Through the year. Required of candidates for the degree of Bachelor of Arts in the Sophomore or Junior year, and of candidates for the degree of Bachelor of Philosophy in the Freshman, Sophomore, or Junior year. *Mon., Tu., Th., at 2.20.*

3. *Early and Medieval Christianity*

A study of the development of Christian thought and institutions from the Apostolic age to the Reformation, with especial attention to the internal life of the church rather than to its external political relations. Lectures and parallel reading, with frequent assignments in the sources. *Professor COLLIER.*

Three hours. First semester. Elective for Juniors, Seniors, and Graduates. With 4 constitutes a continuous year course in Church history. *Tu., Th., Sat., at 12.20.*

4. *The Reformation*

The causes of the Reformation; the Lutheran revolt; Calvinism; the Church of England; the Roman Catholic reaction and the religious wars; with a brief survey of the parallel doctrinal development. Method as in 3. *Professor COLLIER.*

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates who have credit for 3 and for others by special permission. *Tu., Th., Sat., at 12.20.*

5. *The French Revolution and the Napoleonic Era*

An introductory survey of the eighteenth century, with particular reference to the causes of the French Revolution, followed by a de-

‡ The elective courses in History are regularly open only to students who have credit for 1, 2, but by special permission of the instructor elective courses may be taken by students who are at the same time taking 1, 2.

tailed study of the Revolution, its principles and development, and the rise and overthrow of Napoleon. *Professor COLLIER.*

Three hours. First semester. Elective for Juniors, Seniors, and Graduates. With 6 constitutes a continuous year course in modern European history. *Tu., Fri., Sat., at 10.20.*

6. *Europe since 1815*

The reconstruction of Europe after Napoleon; reaction and revolution; political reorganization, and the formation of the present states of Europe; colonial expansion and world-politics; social development. *Professor COLLIER.*

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates. A continuation of 5, by which it should preferably be preceded. *Tu., Fri., Sat., at 10.20.*

7. *English History to 1603*

A general course in the history of England from the Roman occupation to the close of the reign of Elizabeth. Lectures, parallel reading, frequent tests, and regular assignments in the sources, with written or oral reports. *Professor COLLIER.*

Three hours. First semester. Elective for Juniors, Seniors, and Graduates, and for Sophomores who have credit for 1, 2. *Mon., Tu., Th., at 2.20.*

8. *English History, 1603 to the present time*

A continuation of course 7, following the same method. In the study of the eighteenth and nineteenth centuries particular attention will be paid to the social development; the diplomatic relations of England with the Continental powers will, for the most part, be taken up in 6. *Professor COLLIER.*

Three hours. Second semester. Elective for Sophomores, Juniors, Seniors, and Graduates who have credit for 7 and for others by special permission. *Mon., Tu., Th., at 2.20.*

11, 12. *Seminary in European History*

Intensive study of a limited period or of a special phase of social or political development, with a view to training in historical method and the use of the sources. For 1913-14 the subjects are: First semester, The benevolent despotism of the eighteenth century. Second semester, Church and state in the nineteenth century. *Professor COLLIER.*

Three hours. Two hours of attendance. Through the year. Elective for Graduates and approved Juniors and Seniors.

13, 14. *American History*

A general course, covering the whole period from the beginnings of English colonization to the present time. Intended as an introduction to the advanced courses in American history and for students who wish only a general survey of the subject. *Professor MACDONALD.*

Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Either semester may be elected independently, but 14 should preferably be preceded by 13. *Wed., Fri., Sat., at 11.20.*

15, 16. *Constitutional and Political History of the United States*

An advanced course covering the period from 1783 to the present time. Intended primarily for students who wish to specialize in American history or who expect to study law. *Professor MACDONALD.*

Three hours. Two hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates. *Mon., Wed., at 12.20.*

17, 18. *Seminary in American History*

Designed to afford training in historical investigation and practice in the use of sources. The subjects vary from year to year, and are drawn from both the colonial and the constitutional periods. For 1913-14 the subjects are: First semester, The expansion of New England. Second semester, The history of the Federalist party and of Federalism. *Professor MACDONALD.*

Three hours. One to two hours of attendance. Through the year. Elective for Graduates and approved Seniors. Should be preceded by 13, 14, or 15, 16, or 19, 20, but in exceptional cases may be taken by students who at the same time are taking one of these groups of courses.

[19. *Social History of America to 1787*]

The historical development of political, social, and religious institutions in the colonial and revolutionary periods.

Three hours. Two hours of attendance. First semester. Elective for Juniors, Seniors, and Graduates. Not offered in 1913-14.

[20. *History of the United States since 1860*]

A narrative course dealing especially with legal and constitutional development, party changes, and international relations. Intended

primarily for students who wish to specialize in American history or who expect to study law.

Three hours. Two hours of attendance. Second semester. Elective for Juniors, Seniors, and Graduates. Not offered in 1913-14.

XV. INDO-EUROPEAN PHILOLOGY

FRANCIS GREENLEAF ALLINSON, PH.D., *David Benedict Professor of Classical Philology*

2. *General Introduction to the Study of Language*

Outline of the history of language; the Indo-European family. Adapted for students of ancient or modern languages.

Three hours. Second semester. Elective for Undergraduates.

4. *Seminary in Comparative Philology*

For advanced students in Greek and Latin or modern languages.

Three hours. Two hours of attendance. First semester. Elective for Graduates and approved Seniors.

5, 6. *Sanskrit, Elementary Course*

Whitney's *Grammar*; Lanman's *Reader*; selections from the *Vedic Hymns*.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates.

[7, 8. *Sanskrit, Advanced Course*]

Vedic Hymns, and other selections.

One hour. Through the year. Elective for students who have credit for 5, 6. Not offered in 1913-14.

XVI. MATHEMATICS

NATHANIEL FRENCH DAVIS, A.M., LL.D., *Professor of Pure Mathematics*

HENRY PARKER MANNING, PH.D., *Associate Professor of Pure Mathematics*

ROLAND GEORGE DWIGHT RICHARDSON, PH.D., *Associate Professor of Pure Mathematics*

RAYMOND CLARE ARCHIBALD, PH.D., *Assistant Professor of Pure Mathematics*

CLINTON HARVEY CURRIER, A.M., *Instructor in Mathematics*

CLARENCE NEWTON REYNOLDS, JR., PH.B., *Assistant in Mathematics*

INTRODUCTORY STATEMENT ‡

For students who presented only Algebra and Plane Geometry for admission. Candidates for the degree of Bachelor of Arts, and candidates for the degree of Bachelor of Philosophy who do not intend to take Argumentation in the Sophomore year, are required to take one of the following combinations of courses: (A) 1, 2; (B) 3, 4; (C) 3, 2. Students who intend to specialize in Mathematics are advised to take both 1, 2 and 3, 4, or 13, 16 and 17, 18; but if only three hours can be taken in the Freshman year, it is advisable to elect 3, 2.

For students who presented Solid Geometry and Plane Trigonometry for admission. Candidates for the degree of Bachelor of Arts, and those candidates for the degree of Bachelor of Philosophy who do not elect to take Argumentation in the Sophomore year, are required to take one of the following combinations of courses: (A) 3, 4; (B) 5, 6; (C) 5, 4. Students who intend to specialize in Mathematics are advised to take both 3, 4 and 5, 6; but if only one course can be taken in the Freshman year, it is advisable to elect 5, 6.

‡ Students wishing to specialize in Mathematics should take the undergraduate courses in the order 3, 2, 5, 6, 7, 8, 9. Courses 1, 4, 16, together with as many of courses 21-44 as possible, should be taken as opportunity offers in connection with the other courses.

It is recommended that students who contemplate teaching in the secondary schools elect courses 1-8, 41, 42, 43, 44.

Courses 9, 13, 16, 17, 18, 19, 20 are primarily for candidates for the degree of Bachelor of Science.

Courses 21-40 are designed primarily for Graduates. Two or three of these courses are offered each year according to the needs of students. For those who have taken all of them, other courses can usually be arranged.

Unless elected by three students, courses 21-44 may not be given.

1. *Solid and Spherical Geometry*

Professors MANNING and ARCHIBALD, *Mr.* CURRIER.

Three hours. First semester. Required as noted in Introductory Statement. Elective for other Undergraduates who did not present Solid Geometry for admission. *One division, Mon., Wed., Fri., at 8; one division, Mon., Th., Fri., at 9.20; one division, Tu., Wed., Sat., at 9.20.*

2. *Plane Trigonometry*

Professors MANNING and ARCHIBALD, *Messrs.* CURRIER and REYNOLDS.

Three hours. Second semester. Required as noted in Introductory Statement. Elective for other Undergraduates who did not present Plane Trigonometry for admission. *One division, Mon., Wed., Fri., at 8; two divisions, Mon., Th., Fri., at 9.20; two divisions, Tu., Wed., Sat., at 9.20.*

3. *Algebra*

Professor MANNING and *Mr.* CURRIER.

Three hours. First semester. Required as noted in Introductory Statement. Elective for other Undergraduates. *Two divisions, Mon., Th., Fri., at 9.20; one division, Tu., Wed., Sat., at 9.20.*

4. *Algebra*

Professor MANNING.

Three hours. Second semester. Required as noted in Introductory Statement. Elective for students who have credit for 3. *Mon., Th., Fri., at 9.20.*

5. *Plane Analytic Geometry*

Professor DAVIS.

Three hours. First semester. Required as noted in Introductory Statement. Elective for students who have credit for Plane Trigonometry. *Tu., Wed., Sat., at 9.20.*

6. *Differential Calculus*

Professor DAVIS.

Three hours. Second semester. Required as noted in Introductory Statement. Elective for students who have credit for 5. *Tu., Wed., Sat., at 9.20.*

7, 8. *Differential and Integral Calculus*

A continuation of 6. *Professor* DAVIS and *Mr.* CURRIER.

Three hours. Through the year. Elective for students who have credit for 6. *Tu., Th., Sat., at 12.20.*

9. *Differential Equations*

Professor MANNING.

Two hours. First semester. Required of candidates for the degree of Bachelor of Science in Electrical Engineering. Elective for students who have credit for 8 or 20. *Tu., Th., at 12.20.*

[12. *Modern Analytic Geometry*]

Three hours. Second semester. Elective for students who have credit for 5. Not offered in 1913-14.

13. *Algebra*

Professors MANNING, RICHARDSON, and ARCHIBALD, *Mr.* CURRIER.

Three hours. First semester. Required of candidates for the degree of Bachelor of Science. *Wed., Fri., Sat., at 11.20.*

[14. *Solid Analytic Geometry*]

Three hours. Second semester. Elective for students who have credit for 5. Not offered in 1913-14.

16. *Spherical Trigonometry*

Professors MANNING and ARCHIBALD.

One hour. Second semester. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for Plane Trigonometry, and have not taken Spherical Trigonometry in college. *Two divisions, Wed. at 11.20; one division, Sat. at 11.20.*

17. *Plane Trigonometry*

Professors DAVIS and ARCHIBALD, *Messrs.* CURRIER and REYNOLDS.

Three hours. First semester. Required of candidates for the degree of Bachelor of Science. *Mon., Tu., Th., at 11.20.*

18. *Analytic Geometry*

Professors DAVIS and ARCHIBALD, *Mr.* CURRIER.

Five hours. Second semester. Required of candidates for the degree of Bachelor of Science. *One division, Mon., Tu., Wed., Th., Fri., at 11.20; two divisions, Mon., Tu., Th., Fri., Sat., at 11.20.*

19, 20. *Differential and Integral Calculus*

Professors DAVIS and RICHARDSON.

Four hours. Through the year. Required of candidates for the degree of

Bachelor of Science. *One division, Tu., Wed., Sat., at 9.20, Th. at 8; one division, Tu., Fri., Sat., at 10.20, Wed. at 8.*

21, 22. *Function Theory of a Complex Variable*

Professor MANNING.

Three hours. Through the year. Elective for Graduates and approved Juniors and Seniors. *Tu., Th., Sat., at 8.*

[23, 24. *Differential Equations, Advanced Course*]

Three hours. Through the year. Elective for Graduates who have credit for 21, 22. Not offered in 1913-14.

[25, 26. *Advanced Algebra*]

Among the subjects discussed are the following: linear dependence; systems of linear equations; linear transformations; algebraic invariants; bilinear and quadratic forms; factoring of polynomials in one and in several variables.

Three hours. Through the year. Elective by special permission of the instructor. Not offered in 1913-14.

[27, 28. *Projective Geometry*]

Three hours. Through the year. Elective for Graduates and approved Seniors. Not offered in 1913-14.

[29, 30. *Function Theory of a Real Variable*]

The foundations of the differential calculus; definite integrals; line integrals; multiple integrals.

Three hours. Through the year. Elective for students who have credit for 25, 26, and for others by special permission. Not offered in 1913-14.

31, 32. *Applications of Calculus to Geometry*

Professor ARCHIBALD.

Three hours. Through the year. Elective for students who have credit for 8 or 20.

39, 40. *Course in Advanced Topics*

Among the topics to be discussed during the present year are: quadratic forms with a finite number and with infinite many invariables; elementary divisors; linear equations in an infinite number of unknowns; integral equations; boundary value problems in ordinary differential equations. Professor RICHARDSON.

Amount of credit to be arranged. Elective for Graduates who have adequate preparation.

41, 42. *Fundamental Problems of Algebra*

An introduction to some of the concepts of modern analysis; designed for students who expect to teach as well as for those who are preparing for advanced work in Mathematics. Among the topics to be treated are: the number system; limits; infinite series; the fundamental operations; determinants and systems of linear equations.

Professor RICHARDSON.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. *Mon., Wed., Fri., at 8.*

[43, 44. *Foundations, Methods, and Problems of Geometry*]

Designed for those who expect to teach Mathematics. The principal subjects included in the course will be: foundations (considerable time will be devoted to this topic); Euclid and his modern rivals; American, English, French, German, and Italian texts; Euclidean, Mascheronian, and Steinerian constructions; methods for problem solving; geometrography; famous problems; history.

Three hours. Through the year. Elective for students who have credit for 3, 4, or 25, 26, or 41, 42, and for others by special permission. Not offered in 1913-14.

XVII. MECHANICAL ENGINEERING†

WILLIAM HERBERT KENERSON, M.E., A.M., *Professor of Mechanical Engineering*

JAMES ALEXANDER HALL, A.B., Sc.B., *Instructor in Mechanical Engineering*

THOMAS CLARK SHEDD, Sc.B., *Assistant in Mechanical Engineering*

HENRY DEWEES CADY, *Instructor in Shop Practice*

1. *Wood-work*

Exercises in carpentry and wood-turning. Assigned reading and written reports. *Mr.* CADY.

Two hours. Five hours of attendance. First semester, *Tu., 2 to 5; Fri., 2 to 4.*

† All the courses in this department except 6 and 7 are required of candidates for the degree of Bachelor of Science in Mechanical Engineering, and, with the exception of 1-5, are elective for other students.

2. *Wood-work*

Exercises in pattern-making. Assigned reading and written reports. *Mr. CADY.*

Two hours. Five hours of attendance. Second semester, *Mon., Th., 2 to 4; Wed. at 11.20.*

3, 4. *Metal-work*

Exercises in chipping and filing; the use of machine tools; forging and hardening tools, etc. Assigned reading and written reports. *Mr. CADY.*

Two hours. Five hours of attendance. Through the year. First semester, *Mon. at 10.20; Tu., Fri., 2 to 4.* Second semester, *Wed., 2 to 4; Fri., 2 to 5.*

5. *Metal-work*

Exercises in chipping and filing; the use of machine tools; forging and hardening tools, etc. Assigned reading and written reports. *Mr. CADY.*

Three hours. Seven hours of attendance. First semester, *Tu., Fri., 2 to 5; Fri. at 9.20.*

6. *Wood-work*

Exercises in carpentry, wood-turning, and pattern-making. *Mr. CADY.*

Three hours. Seven hours of attendance. Elective in either semester for Sophomores, Juniors, and Seniors who have had instruction in drawing. First semester, *Tu., Fri., 2 to 5.* Second semester, *Mon., Th., 2 to 5.*

7. *Metal-work*

Exercises in chipping and filing; the use of machine tools; forging and hardening tools, etc. *Mr. CADY.*

Three hours. Seven hours of attendance. Elective in either semester for Sophomores, Juniors, and Seniors who have had instruction in drawing. First semester, *Tu., Fri., 2 to 5.* Second semester, *Mon., Th., 2 to 5.*

8. *Kinematics*

Velocity ratios, rolling surfaces, cams, and belting. Recitations, drawing, and the solution of problems. *Mr. HALL.*

Three hours. Seven hours of attendance. Second semester. Elective for students who have credit for Mechanical Drawing 5. *Tu. at 12.20 and 2.20 to 5.20; Fri., 2.20 to 5.20.*

9, 10. *Kinematics, continued*

Gearing, linkwork, parallel motions, and gear trains; machine tools; the application of the principles involved. Recitations, drawing, and the solution of problems. *Mr. HALL.*

Three hours. Seven hours of attendance. Through the year. Elective for students who have credit for 8 and for Mechanical Drawing 5. *Mon., 2.20 to 5.20; Wed. at 10.20; Th., 2.20 to 5.20.*

11, 12. *Machine Design*

Applications of the principles of mechanics and the strength of materials to the design of representative types of boilers, engines, and various mechanisms; solution of problems illustrating the method of designing bolts and nuts, keys, journals and bearings, fly-wheels, valve gears, etc. Lectures, calculation, and drawing. *Mr. HALL.*

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 9, 10, and Mechanics 2. *Mon., Th., 10.20 to 1.20.*

14. *General Engineering and Design*

Lectures; discussion of special engineering problems, patents and patent law, and cost systems. *Professor KENERSON and Mr. HALL.*

Two hours. Second semester. *Tu., Wed., 10.20 to 12.20.*

15, 16. *Thermodynamics*

Applications of the principles of gases and vapors to steam, gas, and other heat engines, air-compressors, refrigerating apparatus, etc.; discussion of the energy of fuel and the utilization of such energy for power purposes by means of various media; laws of the relation of variations of pressure, temperature, and volume of such media; analysis of the various cycles used in heat engines; the principles of the injector and the ejector. *Professor KENERSON and Mr. SHEDD.*

Three hours. Through the year. Elective for students who have credit for Physics 1, 2. *Tu., Wed., Sat., at 9.20.*

17, 18. *Engineering Practice*

Applications of the principles of thermodynamics and mechanics to the production, transmission, utilization, and measurement of power; valves and valve gears, and valve setting; indicator practice and tests of various forms of steam engines, gas engines, etc.; standardization of auxiliary apparatus used in making the various tests; boiler

testing; flue gas and fuel analysis, etc. Lectures, recitations, and laboratory work. *Professor KENERSON and Mr. SHEDD.*

Three hours. Through the year. Elective for students who have credit for or are taking 15, 16. *Wed., Fri., Sat., at 8.*

19, 20. *Materials of Engineering*

Study of the sources, manufacture, and properties of the important materials used in engineering; laboratory tests to determine the behavior of materials when subjected to tensile, compressive, and torsional stresses; mixing and testing of cements and mortars; preparation and examination of sections for the microscopical study of the structure of metals and alloys. Lectures, recitations, and laboratory work. *Professor KENERSON and Mr. SHEDD.*

Three hours. Through the year. Elective for students who have credit for or are taking Mechanics 1. *Tu., Fri., at 10.20. 1st div., Mon., 9.20 to 11.20; 2d div., Tu., 3.20 to 5.20; 3d div., Th., 3.20 to 5.20; 4th div., Mon., 3.20 to 5.20.*

21. *Power Plant Engineering*

Discussion of the relation and coördination of the various parts of the complete power plant; management, and methods of determining efficiency; selection of the best equipment from manufacturers' catalogues and actual inspection. Lectures, recitations, tests, and tours of inspection. *Mr. HALL.*

Three hours. First semester. Elective for students who have credit for 15, 16. *Tu., Fri., 2.20 to 5.20; Wed., Sat., at 9.20.*

22. *Advanced Laboratory Course*

Steam, gas, and power engineering. Particular emphasis laid on preparation and form of reports. *Professor KENERSON, Messrs. HALL and SHEDD.*

Three hours. Second semester. *Tu., Fri., 2 to 5.*

24. *Applied Hydraulics*

Laboratory experiments in connection with Mechanics 4. *Professor KENERSON.*

One hour. Second semester. Must be taken with Mechanics 4 and Civil Engineering 34.

25, 26. *Thesis*

A thesis is required of all candidates for the degree of Bachelor of

Science in Mechanical Engineering. The thesis must embody a design or a review of an engineering plant, appliance, process, or structure, or the results of an experimental investigation.

XVIII. MECHANICS AND MECHANICAL DRAWING

OTIS EVERETT RANDALL, PH.D., *Professor of Mechanics and Mechanical Drawing*

ANSEL BROOKS, PH.B., M.E., *Associate Professor of Mechanics and Mechanical Drawing*

JOHN JOSEPH LONG, PH.B., *Instructor in Mechanical Drawing*

MECHANICS

1, 2. *Mechanics of Solids*

Statics, including resolution and composition of forces, determination of center of gravity, and problems relative to rigid bodies and flexible cords; dynamics, including rectilinear and curvilinear motion, virtual velocity, moment of inertia, work, energy and power, and friction; strength of materials, including tension, compression, shearing, torsion, and flexure; methods of graphical solution of problems. *Professors RANDALL and BROOKS.*

Four hours. Through the year. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for Mathematics 7, 8. *Mon., Tu., at 11.20; Th., 10.20 to 12.20.*

3. *Mechanics of Fluids*

Hydrostatics; nature and use of instruments; flow through orifices, over weirs, through tubes, through pipes, in conduits; flow of rivers; water supply and water power. *Professors RANDALL and BROOKS.*

Three hours. First semester. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for 1, 2. *Wed., Fri., Sat., at 11.20.*

4. *Applied Hydraulics*

Dynamics of water; theoretical consideration of water wheels, pumps, and pumping machinery. *Professors RANDALL and BROOKS.*

One hour. Second semester. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for 3. Must be taken with Civil Engineering 34, and Mechanical Engineering 24. *Wed. at 11.20.*

5, 6. *Mathematical Mechanics*

Comprehensive treatment of the principles of statics and dynamics; strength of materials; higher theoretical and practical problems. Intended primarily for students who are interested in the application of the principles of pure mathematics. *Professor Brooks.*

Three hours. Through the year. Elective for Seniors and Graduates who have credit for Mathematics 7, 8.

MECHANICAL DRAWING

1, 2. *Elementary Mechanical Drawing*

Nature, care, and use of drafting instruments; lettering; plane problem construction; curve tracing; elementary projection. *Professor Brooks and Mr. Long.*

Two hours. Four hours of drawing. Through the year. Required in the Freshman year of candidates for the degree of Bachelor of Science. *Tu., Fri., 2.20 to 4.20.*

3, 4. *Descriptive Geometry*

Discussion, proof, and graphic solution of problems relating to the point, line, and plane, line and surface generation and classification, surface tangency, intersections, and developments; application of the principles of descriptive geometry in isometric drawing, shades and shadows and perspective, machine drawing, and practical engineering problems. *Professor Brooks and Mr. Long.*

Three hours. Two hours of recitation and three hours of drawing. Through the year. Required in the Sophomore year of candidates for the degree of Bachelor of Science. Elective for students who have credit for 7, 8. *Mon., Fri., at 9.20; Tu., Sat., at 10.20.*

5. *Machine Drawing*

Study and representation of machine parts; the principles of elementary machine design; sketches, detail, and assembly drawings of machines; practice in reading drawings. *Professor Brooks and Mr. Long.*

Three hours. One hour of recitation and six hours of drawing. First semester. Required of candidates for the degree of Bachelor of Science in Mechanical Engineering or Electrical Engineering. Elective for students who have credit for 7, 8. *Tu. at 12.20; Mon., Th., 2.20 to 5.20.*

7, 8. *Elementary Mechanical Drawing*

Nature, care, and use of drafting instruments; lettering; plane problem construction; curve tracing; elementary projection. *Mr. LONG.* Three hours. Six hours of drawing. Through the year. Elective for Undergraduates. *Tu., Fri., 2.20 to 4.20.*

XIX. MUSIC

HAMILTON CRAWFORD MACDOUGALL, MUS.D., *Lecturer in Music*

1, 2. *The Evolution of Modern Music*

A general course, taking up modern composers and their works from Haydn to Wagner and Richard Strauss. Lectures, illustrations on the piano, assigned readings, and papers. Designed to give power of appreciation and interpretation with the minimum of technical detail.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. No previous knowledge of music required. *Mon., Wed., at 12.20,* and a third hour at the pleasure of the instructor.

XX. PHILOSOPHY

WILLIAM HERBERT PERRY FAUNCE, A.M., D.D., LL.D., *Professor of Moral and Intellectual Philosophy*

EDMUND BURKE DELABARRE, PH.D., *Professor of Psychology*

WALTER GOODNOW EVERETT, PH.D., *Professor of Philosophy and Natural Theology*

ALFRED HARRISON JONES, PH.D., *Assistant Professor of Logic*

HARRIS MERRILL BARBOUR, A.B., B.D., *Assistant in Philosophy*

1, 2. *Logic*

The aims, methods, and principles of thought; designed to introduce the student to the study of philosophy through a criticism of the nature and limits of science and philosophy, and an estimate of their validity for religion and life. *Professor JONES.*

Three hours. Through the year. Elective for Sophomores and Juniors. *Mon., Th., Fri., at 9.20.*

3, 4. *Psychology and Ethics*

First semester, Psychology. A survey of the main facts and laws of

mental life, aiming to provide a sound foundation for further acquaintance with this and allied subjects, for an improved judgment in dealing with many practical problems, and for understanding the psychological bases of philosophy. Second semester, Ethics. An introductory course dealing in a concrete way with the moral values of daily experience, and intended to aid the student in forming a practical philosophy of life. First semester, *Professor DELABARRE*. Second semester, *Professor EVERETT*.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Either semester may be elected independently by Seniors only. *Tu., Wed., Sat., at 9.20.*

5, 6. *Psychology, Intermediate Course*

A study of the fundamental principles on which a scientific system of psychology must be based. The nature and composition of consciousness, its relation to bodily processes, and its complete subjection to law. The criteria for accepting evidence and forming sound judgments in connection with the problems of so-called "psychical research." *Professor DELABARRE*.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for a course in Psychology.

7, 8. *History of Philosophy*

The successive philosophical systems as revealing the logical development of European philosophy. The treatment also aims to exhibit the significant relations which philosophy has sustained to civilization, especially in its fundamental political, scientific, religious, and cultural elements. *Professor EVERETT*.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. *Mon., Th., Fri., at 9.20.*

9. *Philosophy of Religion*

A constructive study of the nature of the religious consciousness, and of the ultimate problems of religious belief. *Professor EVERETT*.

Three hours. First semester. Elective for Juniors, Seniors, and Graduates who have credit for a year course in Philosophy. *Tu., Wed., Sat., at 9.20.*

10. *Applications of Psychology*

Description of some of the important ways in which the principles of psychology are being practically applied to the problems of modern life. *Professor DELABARRE*.

Three hours. Second semester. Elective for students who have credit for 3. *Tu., Wed., Sat., at 9.20.*

11, 12. *Experimental Psychology, Introductory Laboratory Course*
Description of the main lines and results of experimental research; demonstrations by the instructor or the class; training in the use of apparatus and in careful scientific observation and measurement. *Professor DELABARRE.*

Three hours. Six hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 3.

13, 14. *Problems of Philosophy*

A study of some of the more important types of philosophical theory, such as mechanism, dualism, idealism, pragmatism, and realism, and an attempt to estimate their validity for constructive thinking. Special attention will be devoted to a discussion of the forms and philosophical significance of the theory of evolution. *Professor JONES.*

Three hours. Through the year. Elective for Juniors and Seniors who have credit for a year course in Philosophy or who are taking 7, 8, and for Graduates.

25, 26. *Modern Pragmatism*

A study of pragmatism, as represented especially by James and Dewey, and of the philosophy of Bergson; an attempt to estimate the significance of some of the more important anti-intellectualistic tendencies of recent philosophy. *Professor JONES.*

Three hours. Through the year. Elective for Seniors who have credit for 7, 8, and for Graduates.

17, 18. *Psychology, Advanced Course*

A seminary for the discussion of important problems in psychology. The problems discussed will vary, and the course may be taken for two or more years. *Professor DELABARRE.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 5, 6.

19, 20. *Experimental Psychology, Advanced Laboratory Course*

The aim is to study further the problems of experimental psychology, and, whenever possible, to make original contributions to scientific knowledge. The problems investigated will vary, and the course may be taken for two or more years. *Professor DELABARRE.*

One to six hours. Two to twelve hours of attendance. Through the year. Elective for students who have credit for 11, 12. May be taken for more than six hours by Graduates.

21, 22. *Advanced Ethics*

A seminary course for the study of the more important problems of ethical theory. Lectures, written reports, and discussions. Subject for 1913-14: Present Day Ethical Problems. *Professor* EVERETT.

Three hours. Through the year. Elective for Seniors and Graduates who have credit for a year course in Philosophy. [This year for Graduates only.]

[23, 24. *Philosophical Seminary*]

A seminary for the study of the problems of historical and contemporary thought. Reading, written reports, and discussions.

Three hours. Through the year. Elective for Seniors and Graduates who have credit for a year course in Philosophy. Not offered in 1913-14.

XXI. PHYSICS

CARL BARUS, PH.D., LL.D., *Hazard Professor of Physics*

ALBERT DEFOREST PALMER, PH.D., *Associate Professor of Physics*

ARTHUR EUGENE WATSON, PH.D., *Assistant Professor of Physics*

ROBERT FRANKLIN FIELD, A.M., *Instructor in Physics*

FRANK CARLETON BLAKE, SC.B., *Assistant in Physics*

1, 2. *Elementary Physics* ‡

Designed for those who have had little previous training in physics. First semester, dynamics, molecular physics, and heat. Second semester, optics, acoustics, and electricity. The more elementary features of the subjects discussed. Lectures illustrated by experiments and the lantern; weekly written exercises. *Professor* BARUS.

Three hours. Through the year. Required of all candidates for the degree of Bachelor of Science. Elective for Undergraduates who have credit for entrance algebra and plane geometry. *Mon., Wed., Th., at 10.20.*

3, 4. *Elementary Physics, continued* §

Treats the more advanced parts of the subjects taken in the same order as in the preceding course. *Professor* BARUS.

‡ Students who intend to teach Physics should elect courses 1, 2; 3, 4; 5, 6.

§ Graduates taking course 3, 4 are held responsible for all the demonstrations, or for the full equivalent of either Watson's or Daniel's *Principles of General Physics*.

Three hours. Through the year. Elective for students who have credit for 1, 2, and Mathematics 1, 2. *Tu., Fri., Sat., at 10.20.*

5, 6. *Experimental Physics*

An introduction to the theory and practice of physical manipulation. Experimental study of physical phenomena selected to meet the needs of individual students. Written reports and solution of problems. *Professor PALMER.*

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2.

7, 8. *Mathematical Treatment of Dynamical Problems* ‡

First semester, discussion of the general principles of dynamics and the development of the general equations of motion. Second semester, application of these principles to special problems in thermodynamics and hydrodynamics. *Professor PALMER.*

Three hours. Through the year. Elective for Seniors and Graduates who have credit for 5, 6, and Mathematics 9, 10.

9, 10. *Mathematical Theory of Electricity and Magnetism* ‡

Includes a discussion of the more important problems of electrical science. *Professor PALMER.*

Three hours. Through the year. Elective for Graduates and Seniors who have credit for 5, 6, and Mathematics 9, 10.

11, 12. *Advanced Laboratory Course*

Special problems and reference to original sources for methods of solution. *Professors BARUS, PALMER, and WATSON.*

Three or six hours. Six or twelve hours of attendance. Through the year. Elective for students who have credit for 5, 6.

13, 14. *Applied Harmonic Analysis and Applied Vector Analysis* §

Importance of Fourier's method shown by examples drawn from the analytical theory of heat, from elastics, alternating electricity, and elsewhere; treatment by the aid of spherical harmonics. Bessel functions and Lamé functions; the chief theorems of vector analysis deduced and applied to dynamics, elastics, hydrodynamics, the elec-

‡ In determining which of the two courses 7, 8, and 9, 10, shall be offered in any given year, the preference of students will be considered.

§ In determining the content of courses 13, 14, and 15, 16, the preference of students will be considered.

tro-magnetics of Maxwell and Hertz, and the electronic theory of Heaviside, Lorentz, and others. *Professor BARUS.*

Three hours. Through the year. Required in the second semester of candidates for the degree of Bachelor of Science in Electrical Engineering. Elective for Seniors and Graduates who have credit for 1, 2, and Mathematics 7, 8.

15, 16. *Physics, Advanced Course* ‡

Lectures on dynamics, potential, elastics, hydrostatics, hydrodynamics, viscosity, capillarity, electrostatics, magnetism, electro-magnetism, thermo-electrics, induction, Fresnel's optics, the electromagnetic theory of light, thermal analytics, and thermodynamics. *Professor BARUS.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for Mathematics 7, 8.

21, 22. *Theory of Measurements*

Lectures and recitations on the theory and precision of measurements, and on methods of taking, recording, and reducing observations; laboratory instruction in selected physical measurements. *Professor PALMER, and Mr. BLAKE.*

Three hours. Five hours of attendance. Through the year. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for 1, 2, and Mathematics 7, 8, or 19, 20. *Mon., Fri., at 12.20.* Laboratory hours will be posted in 11 Wilson Hall on the first day of each term.

23, 24. *Precision Measurements in Photometry, Electricity, and Magnetism*

Professor PALMER.

Four hours. Eight hours of attendance. Through the year. Elective for students who have credit for 5, 6, or 21, 22, and Mathematics 7, 8, or 19, 20.

25, 26. *Radiation, Optics, and Heat*

Experimental study of selected phenomena; demonstrations and personal conferences. *Professor PALMER.*

Three or six hours. Six or twelve hours of attendance. Through the year. Elective for students who have credit for 5, 6, or 21, 22.

‡ In determining the content of courses 13, 14, and 15, 16, the preference of students will be considered.

ELECTRICAL ENGINEERING‡

*Professor WATSON and Mr. FIELD**1, 2. General Course*

Methods of generating and utilizing electric currents; theory and working of dynamo-electric machinery.

Three hours. Two hours of recitation or lecture and two hours in the laboratory. Elective for students who have credit for or are taking Physics 5, 6, or 21, 22, and Mathematics 6 or 19. First semester, *Mon., Th., at 9.20*. Second semester, *Mon., Fri., at 9.20*. Laboratory assignments for afternoons.

3, 4. Alternating Currents

Mathematical and graphical treatment.

Three hours. Two hours of recitation or lecture and two hours in the laboratory. Through the year. Elective for students who have credit for 2, and who have credit for or are taking Mathematics 9. *Tu., Fri., at 10.20*. Laboratory assignments for afternoons.

6. Calculation and Design of Direct Current Electrical Machinery

Three hours. Second semester. Must be taken with 2. Not elective. *Tu., Wed., Th., at 9.20*.

7. Telegraph and Telephone Engineering

Three hours. First semester. Elective for students who have credit for 2. *Mon., Wed., Th., at 10.20*.

8. Alternating Current Machinery

Calculation and design of generators, motors, transformers, etc.

Three hours. Second semester. Must be taken with 10. Elective for students who have credit for 1, 2, and 3. *Mon., Th., Fri., at 9.20*.

10. Power and Lighting Stations

Equipment and systems of distribution.

Three hours. Second semester. Must be taken with 8. Elective for students who have credit for 1, 2, and 3. *Mon., Wed., Th., at 10.20*. Weekly trips of inspection.

12. Electrical Engineering Problems

Reading and discussion. Seminary method.

One hour. Second semester. Not elective. *Mon. at 11.20*.

‡ All the courses in Electrical Engineering are required of candidates for the degree of Bachelor of Science in Electrical Engineering. 1, 2 is required of candidates for the degree

13, 14. *Thesis*

A thesis is required of all candidates for the degree of Bachelor of Science in Electrical Engineering. The thesis must embody a design or a review of an engineering plant, appliance, process, or structure, or the results of an experimental investigation.

XXII. ROMAN LITERATURE AND HISTORY

ALBERT GRANGER HARKNESS, A.M., LITT.D., *Professor of Roman Literature and History*

JOHN FRANCIS GREENE, A.M., *Associate Professor of Roman Literature and History*

1. *Livy*

Designed to enable the student to acquire facility in reading Latin, and to instruct him in the use of the Latin texts as a means of gaining a knowledge of Roman history. Grammatical study and literary criticism also receive attention. *Professors HARKNESS and GREENE.*

Three hours. First semester. Elective for students who presented elementary and advanced Latin for admission. *1st div., Wed., Fri., Sat., at 11.20; 2d div., Tu., Th., Sat., at 12.20.*

2. *Cicero's Letters*

Aims and methods as in 1. *Professors HARKNESS and GREENE.*

Three hours. Second semester. Elective for students who presented elementary and advanced Latin for admission. *1st div., Wed., Fri., Sat., at 11.20; 2d div., Tu., Th., Sat., at 12.20.*

3. *Horace's Odes and Epodes, Tibullus, Propertius*

Critical study of the poems, supplemented by rapid reading with a view to comprehending the spirit of the author. The literary side of the study is made prominent. Lectures; literary topics assigned to the class for special study. *Professor GREENE.*

Three hours. First semester. Elective for Sophomores. *Mon., Wed., Fri., at 12.20.*

4. *Horace's Satires and Epistles, Juvenal*

Aims and methods as in 4. *Professor HARKNESS.*

of Bachelor of Science in Mechanical Engineering. 1 is required of candidates for the degree of Bachelor of Science in Civil Engineering.

Three hours. Second semester. Elective for Sophomores. *Mon., Wed., Fri., at 12.20.*

5, 6. *Latin Poetry*

Aims to give a connected and comprehensive view of the history and development of Latin poetry. Lectures on the lives and writings of the authors; reading of characteristic selections; special study by members of the class of assigned topics in literary history and criticism. First semester, Plautus. Second semester, Lucretius and Catullus. Forms with 7, 8 a two-year consecutive course, affording a general survey of Roman literature. *Professors HARKNESS and GREENE.*

Three hours. Through the year. Elective for Juniors and Seniors. Either semester may be elected independently. *Tu., Wed., Sat., at 9.20.*

[7, 8. *Latin Prose*]

Aims to give a connected and comprehensive view of the history and development of Latin prose. Lectures on the lives and writings of the authors, on the development of oratory, etc.; reading of characteristic selections; special study, by members of the class, of assigned topics in literary history and criticism. First semester, specimens of early Latin, Cicero's *Brutus*, and Quintilian. Second semester, the *Annals* of Tacitus. Forms with 5, 6 a two-year consecutive course, affording a general survey of Roman literature.

Three hours. Through the year. Elective for Juniors and Seniors. Either semester may be elected independently. Not offered in 1913-14.

9, 10. *Petronius, Pliny the Younger, Martial*

Professor HARKNESS.

One hour. Through the year. Elective for Juniors, Seniors, and Graduates. *Fri. at 2.20.*

11, 12. *Latin Composition*

Professor GREENE.

One hour. Through the year. Elective for Sophomores, Juniors, and Seniors.

13, 14. *History of the Roman Empire*

The Early Empire. The Age of the Antonines. The Age of Constantine. *Professor GREENE.*

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Either semester may be elected independently. *Tu., Wed., Sat., at 9.20.*

16. *Roman Civilization*

An outline of Roman civilization and its influence on modern times. Special attention will be given to the literature and to the political and social life. No knowledge of Latin required. Must be preceded in the first semester by Greek 15, Greek Civilization. The two semesters together constitute the course in Classical Civilization. *Professors* HARKNESS and GREENE.

Three hours. Second semester. Required in the Freshman or Sophomore year of candidates for the degree of Bachelor of Philosophy. Not elective. *1st div.*, Mon., Th., Fri., at 9.20; *2d div.*, Mon., Tu., Th., at 11.20.

17, 18. *Seminary in Latin*

Subject for 1913-14: Reading from the poetry of the Empire. Gude-
man's *Latin Literature of the Empire*, vol. II. Questions in textual criticism and in the structure of Latin verse will be considered. *Professors* HARKNESS and GREENE.

Three hours. Two hours of attendance. Through the year. Elective for Graduates.

XXIII. ROMANCE LANGUAGES AND LITERATURES

COURTNEY LANGDON, A.B., *Professor of the Romance Languages and Literatures*

ALBERT BUSHNELL JOHNSON, A.M., *Associate Professor of the Romance Languages and Literatures*

CHARLES HERMAN HUNKINS, DR. *de l'Université de Paris, Assistant Professor of the Romance Languages and Literatures*

HENRI FELIX MICOLEAU, *Instructor in French*

BERNARD KEENAN, A.M., *Instructor in French*

1, 2. *Elementary Course, First Year*

Grammar, composition, dictation, conversation; translation of selections from modern authors into idiomatic English. *Messrs.* MICOLEAU and KEENAN.

Three hours. Through the year. Elective for students who did not present French for admission. *1st div.*, Tu., Th., Sat., at 8; *2d div.*, Mon., Wed., Fri., at 8.

3, 4. *Elementary Course, Second Year*

Reading of easy modern French prose in the form of stories, plays, or

historical or biographical sketches; review of grammar; composition and conversation based upon the texts read. *Professor HUNKINS.*

Three hours. Through the year. Elective for students who have credit for 1, 2, or who presented Elementary French (1 year) for admission. *Wed., Fri., Sat., at 11.20.*

5, 6. *Intermediate Course*

Reading of modern and classical authors; review of grammar; composition and conversation based upon the texts read; dictation. *Professor HUNKINS, Messrs. MICOLEAU and KEENAN.*

Three hours. Through the year. Elective for students who have credit for 3, 4, or who presented elementary French (2 years) for admission. *1st div., Wed., Fri., Sat., at 11.20; 2d div., Tu., Th., Sat., at 8; 3d div., Mon., Th., Fri., at 9.20.*

7, 8. *Advanced Course*

An introduction to classical and modern French literature; composition; conversation based on the texts read; dictation. *Professors JOHNSON and HUNKINS, Mr. MICOLEAU.*

Three hours. Through the year. Elective for students who have credit for 5, 6, or who presented intermediate French for admission. *1st div., Mon., Tu., Th., at 11.20; 2d div., Mon., Tu., Th., at 11.20; 3d div., Tu., Wed., Sat., at 9.20; 4th div., Tu., Wed., Sat., at 9.20.*

9, 10. *The Realistic School*

Flaubert, Augier, the younger Dumas, the Goncourts, Daudet, Zola, Taine, Loti, and others; abstracts, in French, of works read outside the class; sight reading a prominent feature. *Professor HUNKINS.*

Three hours. Through the year. Elective for students who have credit for 7, 8. *Tu., Fri., Sat., at 10.20.*

11, 12. *The Romantic School*

The history of the romantic school; reading of authors from Chateaubriand and Victor Hugo to Rostand; abstracts on outside reading. Lectures in English and in French. *Professor LANGDON.*

Three hours. Through the year. Elective for students who have credit for 7, 8. *Mon., Wed., Th., at 10.20.*

[13, 14. *The Classical School*]

The history of the classical school; its formation, its apogee, and its decline. Lectures in French.

Three hours. Through the year. Elective for students who have credit for 9, 10,

or 11, 12, and for approved students who have credit for 7, 8. Not offered in 1913-14.

15, 16. *Modern Spanish*

Grammar, conversation, composition, and reading of modern authors. *Professor* JOHNSON.

Three hours. Through the year. Elective for Juniors and Seniors, and for Sophomores not electing more than one other modern language. *Tu., Fri., Sat., at 10.20.*

17, 18. *Modern Italian*

Grammar, composition, and reading of modern authors. *Professor* LANGDON.

Three hours. Through the year. Elective for Juniors and Seniors, and for Sophomores not electing more than one other modern language. *Mon., Th., Fri., at 9.20.*

19, 20. *Dante in English*

A study of the whole of the *Divina Commedia* in English, in the light of modern thought and of other world-poems. *Professor* LANGDON.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Students are advised to elect this course in their Senior year. *Mon., Tu., Th., at 11.20.*

21, 22. *Spanish Language and Literature*

Selected works of classical and modern authors; composition; conversation. *Professor* JOHNSON.

Three hours. Through the year. Elective for students who have credit for 15, 16. *Mon., Th., Fri., at 9.20.*

[23, 24. *Practice in Writing and Speaking French*]

Intended especially for those preparing to teach. Written and oral translations from English into French. Recitations and dialogues in French; conversation; dictation; phonetics.

Three hours. Through the year. Elective for students who have credit for 7, 8. Not offered in 1913-14.

XXIV. SOCIAL AND POLITICAL SCIENCE†

JAMES QUAYLE DEALEY, PH.D., *Professor of Social and Political Science*

JOHN CORLISS DUNNING, LL.B., PH.D., *Assistant Professor of Political Science*

LUCIUS MOODY BRISTOL, PH.D., *Assistant Professor of Sociology*

SOCIAL SCIENCE

1. *Elementary Social and Political Science*

Affords a general outline of these subjects and serves as an introduction to the more extended and special courses which follow. *Professor DEALEY.*

Three hours. In connection with Economics 1 constitutes a year course required in Sophomore, Junior, or Senior year of candidates for the degree of Bachelor of Arts and Bachelor of Philosophy, and in Sophomore year of candidates for the degree of Bachelor of Science. The combined courses will be given in two sections. For the first section Economics will be given in the first semester and Social and Political Science in the second semester. *Tu., Fri., Sat., at 10.20.* For the second section Social and Political Science will be given in the first semester and Economics in the second semester. *Mon., Wed., Fri., at 12.20.* Students must indicate their choice of sections on the registration card.

3, 4. *Social Problems and Conditions*

Modern social problems, such as charity, crime, intemperance, immigration, and child welfare. Constructive movements underlying urban social problems, such as improved housing, city planning, parks, and civic recreation. Emphasis on the principles underlying social and philanthropic work. *Professor BRISTOL.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. *Mon., Tu., Th., at 11.20.*

5. *Origin and Development of Society*

Development of social institutions and problems involved; formation and dispersion of primitive groups; origin of races; union and coalescence of groups; the race struggle; institutions growing out of the race struggle; stages of culture. *Professor DEALEY.*

Three hours. First semester. Followed in the second semester by 16. Elective for Juniors, Seniors, and Graduates. *Tu., Th., Sat., at 12.20.*

† The courses in this department other than 1 are open only to those students who have credit for Social and Political Science 1 and Economics 1.

16. *Social Psychology*

Genesis of the social instincts. The individual and society. Psychology of the crowd; social suggestion and imitation. Applications of social psychology to modern social problems. *Professor BRISTOL.*

Three hours. Second semester. Preceded in first semester by 5. Elective for Juniors, Seniors, and Graduates. *Tu., Th., Sat., at 12.20.*

7. *Introduction to Social Philosophy*

A consideration of the theory of social progress, emphasizing, as basic principles, the teachings of biology, social psychology, ethics, religion, and economics. *Professor BRISTOL.*

Three hours. First semester. Followed in the second semester by 8. Elective for Juniors, Seniors, and Graduates. *Mon., Wed., Th., at 10.20.*

8. *Sociology as a Science*

Its relations to other sciences; its fundamental principles and their applications to social problems. The utility of sociology as a means of increasing human achievement; the improvement of society through conscious effort. *Professor DEALEY.*

Three hours. Second semester. Preceded in the first semester by 7. Elective for Juniors, Seniors, and Graduates. *Mon., Wed., Th., at 10.20.*

[11, 12. *Seminary in Sociology*]

First semester, Ancient and medieval theories in respect to social conditions and development; precursors of sociology. Second semester, Sociological theories since the opening of the nineteenth century; a review of modern sociological thought in Europe and America and its influence on the life and institutions of society.

Three hours. Through the year. Elective for Seniors and Graduates. Not offered in 1913-14.

13, 14. *Investigation of Special Topics*

Intended to train the student in methods of gathering, handling, and presenting data in the study of social problems. *Professor BRISTOL.*

Three hours. Five hours of investigation and one hour of classroom work. Through the year. Elective for Graduates, and for a limited number of approved Juniors and Seniors. *Mon., 4 to 5.*

POLITICAL SCIENCE

1. *Elementary Political and Social Science*

See Social Science 1.

3, 4. *Government and Politics of the United States*

First semester, national government, its organization, powers, and methods; current political issues. Second semester, state and municipal governments; framework and activities of European and American municipalities. *Professor DUNNING.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Either semester may be elected independently. *Mon., Th., Fri., at 9.20.*

5. *Governments and Politics of Foreign States*

The political systems of typical leading states, including some of the states of Latin-America. Current international political situations and problems. *Professor DUNNING.*

Three hours. First semester. Followed in the second semester by 6. Elective for Juniors, Seniors, and Graduates. *Mon., Wed., Th., at 10.20.*

6. *International Law*

The development of the science of International Law. The general principles guiding the relations of states. Illustrative concrete cases. *Professor DUNNING.*

Three hours. Second semester. Preceded in the first semester by 5. Elective for Juniors, Seniors, and Graduates. *Mon., Wed., Th., at 10.20.*

7. *Jurisprudence*

An analysis of the fundamental concepts of the science of Law. The historical development of Roman and English legal systems. *Professor DUNNING.*

Three hours. First semester. Followed in the second semester by 8. Elective for Seniors and Graduates. *Tu., Wed., Sat., at 9.20.*

8. *Constitutional Law*

Principles and development of American constitutional law. Case system. *Professor DUNNING.*

Three hours. Second semester. Preceded in the first semester by 7. Elective for Seniors and Graduates. *Tu., Wed., Sat., at 9.20.*

9, 10. *Seminary in Political Science*

A study of ancient and modern political theories. Rise of modern democratic principles. Present theories in respect to the state; its origin, sovereignty, and forms of government. *Professor DEALEY.*

Three hours. Through the year. Elective for Seniors and Graduates.

13, 14. *Investigation of Special Topics*

Intended to train students in methods of gathering and presenting data in the study of political problems. In connection with this course, work in comparative legislation may be taken under the direction of the Legislative Reference Bureau of the State Library. *Professor DUNNING.*

Three hours. Five hours of investigation and one hour of classroom work. Through the year. Elective for Graduates, and for a limited number of approved Seniors. *Th., 5 to 6.*

PHYSICAL TRAINING

FREDERICK WILLIAM MARVEL, Ph.B., *Professor of Physical Training*

From Thanksgiving to the Spring Recess, all first and second year students are required to attend gymnasium exercises three times a week as follows:

FRESHMEN. *1st div., Tu., Fri., Sat., at 10.20; 2d div., Mon., Tu., Th., at 4.20.*

SOPHOMORES. *1st div., Mon., Wed., Th., at 10.20; 2d div., Tu., Th., Fri., at 3.20.*

A voluntary class for Juniors and Seniors will be held on *Mon., Tu., Fri., at 5.10.* Classes in heavy gymnastics, under the direction of a special instructor, are held four afternoons a week. Classes in wrestling, under the direction of a special instructor, are held two afternoons a week. Instruction in swimming, under the direction of a special instructor, is given by appointment.

TABLE OF ELECTIVE COURSES, 1913-14‡

FIRST SEMESTER

<i>Art</i>	<i>Biology</i>	<i>Economics</i>
1 So. Jr. Sr. Gr.	39 Gr.	23 Sr. Gr.
3 Jr. Sr. Gr.	41 Gr.	<i>Education</i>
5 Jr. Sr. Gr.	<i>Botany</i>	1 Jr. Sr. Gr.
7 Gr.	1 Fr. So. Jr. Sr.	3 Sr. Gr.
15 Fr. So. Jr. Sr.	3 So. Jr. Sr. Gr.	5 Gr. Sr.
17 So. Jr. Sr.	5 So. Jr. Sr.	7 Gr. Sr.
<i>Astronomy</i>	7 Gr. Sr. Jr.	9 Gr. Sr.
1 So. Jr. Sr.	9 Fr. So. Jr. Sr.	11 Gr.
7 Jr. Sr. Gr.	13 Jr. Sr. Gr.	13 Gr. Sr.
9 Gr. Sr.	<i>Chemistry</i>	15 Gr. Sr.
<i>Biblical Literature</i>	1 Fr. So. Jr. Sr.	<i>Electrical Engineering</i>
1 Jr. Sr. Gr.	3 So. Jr. Sr.	1 Jr. Sr.
3 Sr. Gr.	5 Jr. Sr. Gr.	3 Sr.
5 Gr. Sr.	7 Jr. Sr. Gr.	7 Sr.
7 Gr.	15 Jr. Sr. Gr.	<i>English</i>
8 Sr. Gr.	17 Gr.	3 So. Jr.
9 Sr. Gr.	21 Jr. Sr. Gr.	5 Jr. Sr.
11 Jr. Sr. Gr.	23 Jr. Sr. Gr.	7 So. Jr. Sr.
17 Jr. Sr. Gr.	25 Gr.	11 So. Jr.
19 So. Jr. Sr. Gr.	27 Sr. Gr.	15 Jr. Sr. Gr.
21 Gr. Sr. Jr.	29 Sr. Gr.	17 Jr. Sr. Gr.
23 Jr.	31 Gr.	21 Jr. Sr. Gr.
<i>Biology</i>	<i>Civil Engineering</i>	23 Jr. Sr. Gr.
1 Fr. So. Jr. Sr.	1a, 1b So. Jr. Sr.	25 So. Jr. Sr.
3 So. Jr. Sr.	7 Jr. Sr.	27 Jr. Sr.
5 Jr. Sr.	9 Jr. Sr.	31 Jr. Sr.
7 Jr. Sr.	13 Jr. Sr.	35 So. Jr. Sr.
9 Jr. Sr. Gr.	15 Sr.	37 So. Jr. Sr.
11 Jr. Sr.	19 Sr.	39 Jr. Sr.
13 Jr. Sr.	<i>Economics</i>	<i>French</i>
15 Fr. So. Jr. Sr.	1 So. Jr. Sr.	1 Fr. So. Jr. Sr.
17 Jr. Sr. Gr.	5 Jr. Sr. Gr.	3 Fr. So. Jr. Sr.
31 Gr.	7 Jr. Sr. Gr.	5 Fr. So. Jr. Sr.
33 Gr.	11 Jr. Sr.	7 Fr. So. Jr. Sr.
35 Gr.	15 Jr. Sr.	9 So. Jr. Sr.
37 Gr.	21 Jr. Sr. Gr.	11 So. Jr. Sr.

‡ Fr., So., Jr., Sr., Gr., indicate that the courses after which these abbreviations stand are open to Freshmen, Sophomores, Juniors, Seniors, or Graduates, respectively.

<i>Geology</i>	<i>Latin</i>	<i>Philosophy</i>
1 Fr. So. Jr. Sr.	5 Jr. Sr.	3 So. Jr. Sr.
7 So. Jr. Sr.	9 Jr. Sr. Gr.	5 Jr. Sr. Gr.
9 So. Jr. Sr.	11 So. Jr. Sr.	7 Jr. Sr. Gr.
11 Gr. Sr.	13 So. Jr. Sr.	9 Jr. Sr. Gr.
<i>German</i>	17 Gr.	11 Jr. Sr. Gr.
1 Fr. So. Jr. Sr.	<i>Mathematics</i>	13 Jr. Sr. Gr.
3 So. Jr. Sr.	1 Fr. So. Jr. Sr.	17 Jr. Sr. Gr.
5 Fr. So. Jr. Sr.	3 Fr. So. Jr. Sr.	19 Sr. Gr.
7 Fr. So. Jr. Sr.	5 Fr. So. Jr. Sr.	21 Sr. Gr.
9 Fr. So. Jr. Sr.	7 So. Jr. Sr.	25 Sr.
15 So. Jr. Sr.	9 Jr. Sr.	<i>Physics</i>
21 Jr. Sr.	21 Gr. Sr. Jr.	1 Fr. So. Jr. Sr.
25 So. Jr. Sr.	31 Jr. Sr. Gr.	3 So. Jr. Sr.
33 Gr. Sr.	39 Gr.	5 So. Jr. Sr.
35 Gr. Sr.	41 So. Jr. Sr.	7 Sr. Gr.
41 Gr.	<i>Mechanical Drawing</i>	9 Gr. Sr.
<i>Greek</i>	3 So. Jr. Sr.	11 Jr. Sr. Gr.
A Fr. So. Jr. Sr.	5 So. Jr. Sr.	13 Sr. Gr.
1 Fr. So. Jr. Sr.	7 Fr. So. Jr. Sr.	15 Jr. Sr. Gr.
3 So.	<i>Mechanical Engineering</i>	21 Jr. Sr.
5 Jr. Sr.	6 So. Jr. Sr.	23 Jr. Sr. Gr.
9 Jr. Gr.	7 So. Jr. Sr.	25 Jr. Sr. Gr.
13 So. Jr. Sr.	9 Jr. Sr.	<i>Political Science</i>
17 Gr. Sr.	11 Sr.	3 Jr. Sr.
<i>History</i>	15 So. Jr. Sr.	5 Jr. Sr. Gr.
3 Jr. Sr. Gr.	17 So. Jr. Sr.	7 Sr. Gr.
5 Jr. Sr. Gr.	19 Jr. Sr.	9 Sr. Gr.
7 Jr. Sr. Gr.	21 Sr.	13 Gr. Sr.
11 Gr. Sr.	<i>Mechanics</i>	<i>Sanskrit</i>
13 So. Jr. Sr. Gr.	1 So. Jr. Sr.	5 Jr. Sr. Gr.
15 Jr. Sr. Gr.	3 Jr. Sr.	<i>Social Science</i>
17 Gr. Sr.	5 Sr. Gr.	3 Jr. Sr. Gr.
<i>Italian</i>	<i>Music</i>	5 Jr. Sr. Gr.
17 So. Jr. Sr.	1 Jr. Sr.	7 Jr. Sr. Gr.
19 Jr. Sr. Gr.	<i>Philology</i>	13 Gr. Sr. Jr.
<i>Latin</i>	4 Gr. Sr.	<i>Spanish</i>
1 Fr. So. Jr. Sr.	<i>Philosophy</i>	15 So. Jr. Sr.
3 So. Jr. Sr.	1 So. Jr.	21 Jr. Sr.

BROWN UNIVERSITY

SECOND SEMESTER

Art

2 So. Jr. Sr. Gr.
 4 Jr. Sr. Gr.
 6 Jr. Sr. Gr.
 7 Gr.
 16 Fr. So. Jr. Sr.
 18 So. Jr. Sr.

Astronomy

2 So. Jr. Sr.
 8 Jr. Sr. Gr.
 10 Gr. Sr.

Biblical Literature

2 Jr. Sr. Gr.
 4 Sr. Gr.
 6 Gr. Sr.
 7 Gr.
 8 Sr. Gr.
 10 Sr. Gr.
 12 Jr. Sr. Gr.
 18 Jr. Sr. Gr.
 20 So. Jr. Sr. Gr.
 22 Jr. Sr. Gr.
 23 Gr.

Biology

2 Fr. So. Jr. Sr.
 4 So. Jr. Sr.
 6 Jr. Sr.
 8 Jr. Sr.
 10 Jr. Sr. Gr.
 12 Jr. Sr.
 14 Jr. Sr.
 16 So. Jr. Sr.
 18 Jr. Sr. Gr.
 20 Fr. So. Jr. Sr.
 22 Jr. Sr.
 32 Gr.
 34 Gr.
 36 Gr.
 38 Gr.
 40 Gr.
 42 Gr.

Botany

2 Fr. So. Jr. Sr.
 4 So. Jr. Sr. Gr.
 6 So. Jr. Sr. Gr.
 8 Gr. Sr. Jr.
 10 Fr. So. Jr. Gr.
 14 Jr. Sr. Gr.

Chemistry

2 Fr. So. Jr. Sr.
 4 So. Jr. Sr.
 6 Jr. Sr. Gr.
 8 Jr. Sr. Gr.
 10 Sr. Gr.
 12 Sr. Gr.
 16 Jr. Sr. Gr.
 18 Gr.
 20 Jr. Sr. Gr.
 22 Jr. Sr. Gr.
 24 Jr. Sr. Gr.
 26 Gr.
 28 Sr. Gr.
 30 Sr. Gr.
 32 Gr.

Civil Engineering

2a, 2b So. Jr. Sr.
 4 So. Jr. Sr.
 6 Jr. Sr.
 8 Jr. Sr.
 10 Jr. Sr.
 12 So. Jr. Sr.
 20 Sr.
 22 Sr.
 24 Sr.
 26 Sr.
 28 Jr. Sr.
 30 Sr.
 32 Sr.
 34 Sr.

Economics

1 So. Jr. Sr.
 6 Jr. Sr. Gr.
 10 Jr. Sr. Gr.

Economics

12 Jr. Sr.
 16 Jr. Sr.
 22 Jr. Sr. Gr.
 24 Sr. Gr.

Education

2 Jr. Sr. Gr.
 4 Sr. Gr.
 6 Gr. Sr.
 8 Gr. Sr.
 10 Gr. Sr.
 12 Gr.
 14 Gr. Sr.
 16 Gr. Sr.

Electrical Engineering

2 Jr. Sr.
 4 Sr.
 8 Sr.
 10 Sr.

English

4 So. Jr.
 6 Jr. Sr.
 8 So. Jr. Sr.
 10 Jr. Sr.
 12 So. Jr.
 16 Jr. Sr. Gr.
 18 Jr. Sr. Gr.
 22 Jr. Sr. Gr.
 24 Jr. Sr. Gr.
 26 So. Jr. Sr.
 28 Jr. Sr.
 32 Jr. Sr.
 36 So. Jr. Sr.
 38 So. Jr. Sr.
 40 Jr. Sr.

French

2 Fr. So. Jr. Sr.
 4 Fr. So. Jr. Sr.
 6 Fr. So. Jr. Sr.
 8 Fr. So. Jr. Sr.
 10 So. Jr. Sr.
 12 So. Jr. Sr.

Geology

2 Fr. So. Jr. Sr.
6 Fr. So. Jr. Sr.
8 Fr. So. Jr. Sr.
10 So. Jr. Sr.
12 Gr. Sr.

German

2 Fr. So. Jr. Sr.
4 So. Jr. Sr.
6 Fr. So. Jr. Sr.
8 Fr. So. Jr. Sr.
10 Fr. So. Jr. Sr.
16 So. Jr. Sr.
22 Jr. Sr.
26 So. Jr. Sr.
34 Gr. Sr.
36 Gr. Sr.
42 Gr.

Greek

B Fr. So. Jr. Sr.
2 Fr. So. Jr. Sr.
4 So.
6 Jr. Sr.
12 So. Jr. Sr.
14 So. Jr. Sr.
18 Gr. Sr.

History

4 Jr. Sr. Gr.
6 Jr. Sr. Gr.
8 Jr. Sr. Gr.
12 Gr. Sr.
14 So. Jr. Sr. Gr.
16 Jr. Sr. Gr.
18 Gr. Sr.

Italian

18 So. Jr. Sr.
20 Jr. Sr. Gr.

Latin

2 Fr. So. Jr. Sr.

Latin

4 So. Jr. Sr.
6 Jr. Sr.
10 Jr. Sr. Gr.
12 So. Jr. Sr.
14 So. Jr. Sr.
18 Gr.

Mathematics

2 Fr. So. Jr. Sr.
4 Fr. So. Jr. Sr.
6 Fr. So. Jr. Sr.
8 So. Jr. Sr.
16 Fr. So. Jr. Sr.
22 Gr. Sr. Jr.
32 Jr. Sr. Gr.
40 Gr.
42 So. Jr. Sr.

Mechanical Drawing

4 So. Jr. Sr.
8 Fr. So. Jr. Sr.

Mechanical Engineering

6 So. Jr. Sr.
7 So. Jr. Sr.
8 So. Jr. Sr.
10 Jr. Sr.
12 Jr. Sr.
16 So. Jr. Sr.
18 So. Jr. Sr.
20 Jr. Sr.

Mechanics

2 So. Jr. Sr.
4 Jr. Sr.
6 Sr. Gr.

Music

2 So. Jr. Sr.

Philology

2 Fr. So. Jr. Sr.

Philosophy

2 So. Jr.

Philosophy

4 So. Jr. Sr.
6 Jr. Sr. Gr.
8 Jr. Sr. Gr.
10 So. Jr. Sr.
12 Jr. Sr. Gr.
14 Jr. Sr. Gr.
18 Jr. Sr. Gr.
20 Sr. Gr.
22 Sr. Gr.
26 Sr. Gr.

Physics

2 Fr. So. Jr. Sr.
4 So. Jr. Sr.
6 So. Jr. Sr.
8 Sr. Gr.
10 Gr. Sr.
12 Jr. Sr. Gr.
14 Sr. Gr.
16 Jr. Sr. Gr.
22 Jr. Sr.
24 Jr. Sr. Gr.
26 Jr. Sr. Gr.
Political Science
4 Jr. Sr.
6 Jr. Sr. Gr.
8 Sr. Gr.
10 Sr. Gr.
14 Gr. Sr.

Sanskrit

6 Jr. Sr. Gr.

Social Science

4 Jr. Sr. Gr.
8 Jr. Sr. Gr.
14 Gr. Jr. Sr.
16 Jr. Sr. Gr.

Spanish

16 So. Jr. Sr.
22 Jr. Sr.

LIBRARIES, LABORATORIES, AND MUSEUMS

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LIBRARIES

THE libraries of the University contain two hundred and twenty-five thousand volumes. They comprise the UNIVERSITY LIBRARY, which occupies the John Hay Library Building; the JOHN CARTER BROWN LIBRARY, also with its own building; and the DEPARTMENT LIBRARIES, in the various seminary rooms and laboratories.

THE UNIVERSITY LIBRARY

HARRY LYMAN KOOPMAN, A.M., LITT.D., *Librarian*

THE MAIN LIBRARY is constantly increased with reference to the different courses of study, while at the same time there is kept in view the development of a library of general culture. It includes seven special libraries. The first is the Harris Collection of American Poetry, founded by Albert G. Greene, of the class of 1820, extended by C. Fiske Harris, and bequeathed to the University by the Hon. Henry B. Anthony, of the class of 1833, which numbers thirteen thousand volumes, and is perhaps the largest collection in the world devoted to the subject; a fund of \$5000 given by Samuel C. Eastman, of the class of 1857, in memory of the founder of the collection, provides for its regular increase. The second is the Rider Collection of Rhode Island History, formed by Sidney S. Rider and presented to the University by Marsden J. Perry, a collection remarkable for the extent and rarity of its manuscript and printed material bearing on the history of the state. The third is the Wheaton Collection of International Law, given by William V. Kellen, of the class of 1872, in honor of Henry Wheaton, of the class of 1802. This collection, which already numbers sixteen hundred volumes, is being rapidly increased. The fourth is the George Earl Church Collection, the bequest of Colonel Church, consisting of thirty-five hundred volumes, many of them of great rarity, on the geography, history, and development of South America. The fifth is the Corthell Engineering Library, containing seven thousand volumes and pamphlets. This collection is particularly rich in works on river and harbor engineering. A fund of \$5000 given with the collection by the founder, Elmer L. Corthell, of the class of 1867, provides for its increase. The sixth is the Chambers Dante Collection, containing eleven hundred volumes besides many rare pamphlets, given by Henry D. Sharpe, of the class of 1894. The seventh is the private library of the late Professor Lester F. Ward, numbering one thousand volumes relating especially to sociology and paleobotany. It was given by his family.

The reading room contains the most important reference books, the books reserved by the departments for class use, and the latest numbers of the standard periodicals, American and foreign. On the floor of the stack which opens off the reading room has been placed a special collection known as the STUDENTS' LIBRARY, which consists of some seventeen thousand volumes selected for the use of undergraduates. To this floor all students have free access. The other floors of the stack are open regularly to graduate students, and to undergraduates by special permission. On the top floor of the building is a large exhibition room, open to the public, in which are displayed books and paintings and other objects of artistic, bibliographic, or historic interest.

The library funds amount to \$106,220.50. Of this sum ten thousand dollars constitutes the Gammell Fund for the purchase of books relating to the history of the United States; ten thousand dollars, the Olney Fund for the purchase of plants and botanical books; ten thousand dollars, the Diman Memorial Fund for the purchase of books on medieval and modern history; and ten thousand dollars, the Banigan Fund for the purchase of books on medieval and church history. The remainder includes several smaller special funds and the Library Fund proper.

The following persons are entitled to the use of the library without expense,—the members of the Corporation and Faculty; other college officers; graduates residing in the state of Rhode Island; donors to the funds of the University to the amount of five hundred dollars, residing in the state of Rhode Island; graduate and undergraduate students; and any other persons to whom the Corporation or the Library Committee may from time to time grant the privilege.

The library is open during term time from 8.30 a.m. to 10 p.m. on week days, and from 2 to 10 p.m. on Sundays; during vacations on week days, from 9 a.m. to 5 p.m.

THE JOHN CARTER BROWN LIBRARY

GEORGE PARKER WINSHIP, A.M., *Librarian*

THE JOHN CARTER BROWN LIBRARY, with the building erected for its use, was given to the University by the trustees under the provisions of the will of John Nicholas Brown, of the class of 1885. This collection, well known for many years as the most valuable private library of Americana in existence, was begun by John Carter Brown, of the class of 1816, and after his death was greatly enlarged by his widow and by his sons, John Nicholas and Harold Brown. It now includes more than twenty thousand volumes relating to the history of North and South America during the colonial period. The larger part of the books, many of which are of great rarity and value, were printed before the year 1800, and contain the earliest published accounts of events connected with the discovery, exploration, and colonization of the Western Hemisphere. The books may be consulted by properly qualified students or investigators

upon application to the Librarian. In the main hall of the building are exhibited rare books, engravings, and manuscripts belonging to the collection. The library is open on week days, from 9 a.m. to 5 p.m.

DEPARTMENT LIBRARIES

THE GERMANIC DEPARTMENT LIBRARY comprises over eight thousand carefully selected volumes. The nucleus was purchased in Germany by the late Professor Alonzo Williams in the name of the principal donor, the Hon. Hezekiah Conant. It has since been augmented through the yearly appropriation granted by the University, and by the generosity of Mr. Samuel Morris Conant of Pawtucket and other friends of the department, including German citizens of Providence. The library contains editions of all the important writers of German literature; a large collection of works on Germanic philology; the leading German literary and philological periodicals; many works upon German history, the history of German literature, and German law, art, paleography, and geography. It is especially rich in works of the Middle High German period, in Goethe and Schiller literature, and in literature of the nineteenth century. It possesses several hundred photographs of masterpieces of German painting and architecture, and characteristic views of German cities and landscape. There are many lantern-slides, engravings, and bronzes used to illustrate the subjects taught. The rooms, Sayles 6 and 7, are open from 9.20 a.m. to 12.30 p.m., and from 2 to 6 p.m.

THE ENGLISH DEPARTMENT LIBRARY comprises about three thousand volumes, of which more than twenty-seven hundred were from the private library of the late Hammond Lamont, Professor of Rhetoric in Brown University from 1895 to 1900. These were presented to the University in his memory, by the classes of 1899 and 1900. The collection is especially rich in works on the drama and in prose fiction of the eighteenth century. The library is contained in the rooms of the department, in the John Hay Library.

THE LIBRARIES OF THE DEPARTMENTS OF GREEK AND LATIN constitute the Albert Harkness Classical Seminary, named in honor of its founder, the late Professor Albert Harkness. It consists of fifteen hundred volumes, purchased with funds contributed by friends of the University interested in classical studies, and contains the most important collections of Greek and Roman authors, besides commentaries, reference books, and similar aids. The room, Sayles 8, is open from 9.20 a.m. to 10 p.m.

THE ROMANCE DEPARTMENT LIBRARY consists of a collection of a thousand volumes for the use of advanced students in the Romance languages. The room, Sayles 4, is open daily.

THE BIBLICAL DEPARTMENT LIBRARY consists of a reference collection of fifteen

hundred volumes, including a valuable collection of Semitic books presented by Mr. Jacob Shartenberg of Pawtucket. Through the gift of Mr. William Gammell important books for the use of advanced students have recently been added. A number of Semitic, Biblical, and general religious journals are kept on file. The room, Sayles 3, is open from 9.20 a.m. to 12 m., from 2 to 5 p.m., and from 7 to 9 p.m., except Wednesday and Saturday afternoons and Saturday evenings.

THE BIOLOGICAL DEPARTMENT LIBRARY is a collection of about two thousand two hundred volumes and fifteen hundred pamphlets, to which additions are constantly made. More than fifty current periodicals bearing upon the work of the department are regularly received. The rooms, in Rhode Island Hall, are open from 9.20 a.m. to 4 p.m.

THE EDUCATIONAL DEPARTMENT LIBRARY contains over twelve hundred volumes, chiefly text-books of recent publication. It occupies the seminary room of the department, in the John Hay Library, and is open to all students interested in education, and to teachers and friends of education in the city and state.

THE LIBRARY OF THE DEPARTMENT OF ECONOMICS comprises about fifteen thousand volumes and twenty thousand pamphlets, to which additions are constantly made, and receives regularly about one hundred and twenty-five periodicals and papers bearing upon the work of the department. The rooms are on the first floor of the old library building, and are open from 9 a.m. to 1 p.m.; from 2.30 to 5.30 p.m.; and from 7 to 10 p.m., except Saturdays, when the hours are from 9 a.m. to 1 p.m.

THE BOTANICAL DEPARTMENT LIBRARY consists of about fifteen hundred bound volumes, several thousand pamphlets, and the more important current periodicals. These books have been selected from the large number in the main library as the ones most likely to be in demand by students working in the laboratory, and by visiting botanists working in the Herbarium. When not in use at the department, or on reserve at the department or the main library, any of these books may be borrowed in the usual manner by applying at the University Library. The rooms of the department are in Maxcy Hall.

THE LIBRARY OF THE DEPARTMENT OF PHYSICS is provided with files of the *Fortschritte der Physik*, *Annalen der Physik*, *Philosophical Magazine*, *Journal de Physique*, *Radium*, *Beiblätter der Physik*, *Physical Review*, *Science Abstracts*, *Physikalische Zeitschrift*, *Nature*, and other magazines, together with a rich collection of the standard works and monographs in all departments of Physics and Electrical Engineering, and also the collected works of great authors, physical tables, etc. The room, in Wilson Hall, is open daily.

THE MATHEMATICAL DEPARTMENT LIBRARY comprises six hundred bound vol-

umes of mathematical journals and over a thousand other books. Special effort has been made to have the best books in all branches of pure Mathematics. The library has complete sets of the following journals: *Acta Mathematica*, *American Journal of Mathematics*, *Analyst*, *Annaes Scientificos da Academia Polytechnica do Porto*, *Annals of Mathematics*, *Bulletin of the American Mathematical Society*, *Bulletin des Sciences Mathématiques*, *International Catalogue of Scientific Literature*, *A, Mathematics*, *Journal de Mathématiques pures et appliquées* (Liouville), *Journal für die reine und angewandte Mathematik* (Crelle), *Mathematical Monthly* (Runkle), *Mathematical Questions and Solutions from the Educational Times*, *Mathematische Annalen*, *Proceedings of the London Mathematical Society*, *Transactions of the American Mathematical Society*. In addition to the above, the current numbers of twenty-one other periodicals are available for students; according to the country of publication there are six German, five American, four French, two Belgian, and one each from England, Italy, India, and Switzerland. The library has also *Encyclopédie des Sciences Mathématiques*, *Répertoire Bibliographique des Sciences Mathématiques*, and a complete dictionary card catalogue of the mathematical works in all the libraries of the University. It is desired that the library shall be used freely by the students; applications should be made to the librarian, Professor H. P. Manning. The library room is Wilson 28.

THE LIBRARIES OF THE DEPARTMENTS OF CIVIL ENGINEERING, MECHANICAL ENGINEERING, MECHANICS AND MECHANICAL DRAWING are grouped together on the third floor of the Engineering Building. They form an excellent working library of about twenty-three hundred volumes, including complete sets of many periodicals. All the important engineering periodicals are regularly received. To these should be added the resources of the Corthell Library already described.

THE LIBRARY OF THE DEPARTMENT OF GEOLOGY consists of more than twenty-five hundred volumes of general reference works in Geology and Geography, together with several hundred charts of the Coast and Geodetic, Great Lakes, and Mississippi River Commission surveys, some two thousand maps of the United States Geological Survey, foreign topographic maps, and geologic atlases. The more important current geologic, geographic, and mining periodicals are regularly received. The library is contained in Sayles Hall, Rooms I and J, and is open from 9 a.m. to 10 p.m.

OTHER DEPARTMENT LIBRARIES. There are several other special collections of books for seminary and advanced laboratory work. The most important of these belong to the departments of Astronomy, Chemistry, History, Philosophy, and Social and Political Science.

THE WOMEN'S COLLEGE LIBRARY AND READING ROOM occupy two rooms in Pembroke Hall. The library comprises over thirty-one hundred volumes of

standard literature, chosen with special regard to the courses offered, thus forming for students of the Women's College a convenient and valuable adjunct to the University Library. An experienced librarian is in charge.

OTHER PROVIDENCE LIBRARIES

There are also at the service of the students of the University the seven collections of books named below. These comprise, with the University Library, over half a million volumes, exclusive of pamphlets and manuscripts.

THE PROVIDENCE PUBLIC LIBRARY offers to all students of Brown University, upon the same conditions as to other residents of the city, the use of its carefully chosen collection, which comprises one hundred and seventy thousand volumes. Among its special features may be mentioned the Harris Collection on Slavery and the Civil War; the St. Bride Collection of Books on Printing; the "Standard Library" of best literature; and the Reference Department. About one thousand periodicals, serials, and annuals are currently received. In the Foreign Department there are brought together more than a dozen of the modern languages and literatures. The Educational Department, occupying two rooms, comprises several different collections, placed there in order to facilitate their use by teachers and others. The Information Desk may be consulted with respect to books relating to any of the departments of University study, and for lists of references in connection with any of the special topics under consideration. The library is situated at the corner of Washington and Greene Streets. Its principal rooms are open regularly from 9 a.m. to 9 p.m.; on Sundays, Thanksgiving, Christmas, and July 4, from 2 to 9 p.m.

THE LIBRARY OF THE PROVIDENCE ATHENAEUM is a collection of general literature numbering seventy-nine thousand volumes. The reading room receives over two hundred papers and magazines, including New York, Boston, and Providence daily papers, and American, English, German, French, and Italian weeklies, magazines, and reviews. In bound sets of periodicals and in books on art this library is especially rich. Professors or teachers may become annual subscribers on the payment of four dollars in advance, and any student of Brown University may become a subscriber for three months on the payment of one dollar. All such subscribers have the right to take out books and use the rooms of the library in the same manner as shareholders, except that the rights of subscribers who pay less than at the regular rate of twelve dollars per annum are personal only and do not extend to the families of such subscribers. The Athenaeum is open on week days, from 9 a.m. to 9 p.m.

THE LIBRARY OF THE RHODE ISLAND HISTORICAL SOCIETY is situated on Waterman Street, next to the old University Library Building. The library of the society comprises thirty thousand bound volumes and fifty thousand unbound volumes and pamphlets. Through the courtesy of the society the collection is made accessible, free of charge, to members of the University. It offers spe-

cial facilities for thorough research not only in all subjects relating to the history of Rhode Island, but also in genealogy, biography, general American history, early American travel, and the drama. The library is open on week days, from 9 a.m. to 5 p.m.

THE ANNMARY BROWN MEMORIAL, situated on Brown Street south of the University grounds, was founded by General Rush C. Hawkins, of New York, in memory of his wife, Annmary Brown, of Providence, a granddaughter of Nicholas Brown, after whom the University was named. The building contains a collection—one of the most complete in the world—of books from the first European presses. It contains also a notable collection of paintings by old masters and modern painters. The collection of books was made for the double purpose of showing the progress of printing through the first half century of its existence, from about 1450 to 1500, and of honoring the memory of John Gutenberg, the inventor of printing with movable metal types. It includes two hundred and twenty-five books from one hundred and thirty of the two hundred and thirty-eight first presses set up in the cities, villages, and monasteries in Europe before the year 1501, and is fairly representative of countries. Among the books are many rare and interesting volumes. Incidentally there came into the collection many notable volumes adorned with woodcuts which show the earliest use of the woodcutter's art for book illustration. In connection with the Memorial, General Hawkins has provided for two lectures on "The function of the arts in civilization," to be given annually in Sayles Hall, on March 9 and October 28, the birthdays of his wife and her sister, Carrie Mathilde Brown Bajnotti.

THE LIBRARY OF THE RHODE ISLAND MEDICAL SOCIETY occupies a new building on Francis Street, opposite the State House. It comprises about twenty-five thousand volumes upon medical science, including anatomy, physiology, public hygiene, and other subjects the study of which is pursued in the University. There is also a good file of current medical periodicals. Upon application students can, without cost, enjoy the privileges here offered. The library is open on week days, from 9 a.m. to 5.30 p.m., except on Saturdays, when it closes at 12 m.

THE STATE LAW LIBRARY is a collection of forty thousand volumes. It is accessible to all students, and for certain lines of University study is invaluable. University students are requested to introduce themselves at the desk. The rooms of the library are in the Providence County Court House, at the corner of Benefit and College Streets, and are open on week days, from 9 a.m. to 5 p.m.; except on Saturdays, when they close at 3 p.m.

THE STATE LIBRARY, located in the State House, contains a large collection of official documents of the United States and of the several states, a complete collection of the United States Patent Office Specifications, and general works

pertaining to history and political science. The Legislative Reference Bureau conducted by the State Library directs the work of students who are investigating topics in comparative legislation. The library is open to the public on week days, from 9 a.m. to 5 p.m.; except on Saturdays, when it closes at 12 m.

LABORATORIES

THE LADD ASTRONOMICAL OBSERVATORY is equipped with a Saegmuller-Bra-shear equatorial of twelve inches aperture, which is supplied with a filar micrometer, two spectroscopes, a photographic plate carrier, and other attachments; two equatorials, tripod mounted, each of four inches aperture; four transit instruments, two of which can be used as zenith telescopes; a chronograph; three astronomical clocks; several sextants and chronometers; recording meteorological apparatus; and various minor instruments. The equipment is available for illustrating the general courses in astronomy and for practical use in the applied courses.

The Observatory furnishes constant time-signals to the Fire Department of the City of Providence, and to the Rhode Island Electric Protective Company, which distributes them to its patrons. Routine observations for determining clock errors, and for pressure, temperature, humidity, precipitation, and night cloudiness, are made throughout the year. Regular observations of sunspots and other solar phenomena are made, and special observations of various kinds as opportunity offers.

THE PHYSICAL LABORATORY is in Wilson Hall, which was specially designed and constructed for the Department of Physics. Twelve laboratory rooms are available for experimental study. Brick piers support the instruments requiring great steadiness, and the magnetic rooms are as free as possible from the influence of iron and from other disturbances. Several rooms on the ground floor are devoted to electrical engineering. The Laboratory is supplied with apparatus both experimental and demonstrative, and frequent additions are made. The department has a large collection of historical and other photographs, lantern-slides, and cage models illustrating the propositions in pure and applied physics.

THE CHEMICAL LABORATORIES are in Rogers Hall, which was erected expressly for the Department of Chemistry. The inorganic laboratory is supplied with tables and lockers furnishing accommodations for about two hundred and fifty students working by detachments. The organic laboratory is fitted with tables for about fifty students. Each table has arrangements for gas, high-pressure water-supply, etc.

THE GEOLOGICAL LABORATORIES are in the basement of Sayles Hall. They are equipped with the requisite apparatus and with a detailed series of illustra-

tive specimens for work in general geology, geography, mineralogy, and petrography. The region in which the University is situated offers in a small compass both simple and complex problems in field research in structural, paleontological, and stratigraphic geology.

THE BIOLOGICAL LABORATORIES are in Rhode Island Hall. They include laboratories for physiology, bacteriology and histology, neurology and embryology, and a large laboratory for elementary anatomy and comparative anatomy. The collection of zoological and anatomical material is available for the work of the department. Abundant living material is readily obtained, since the laboratory is situated near the salt water.

THE BOTANICAL LABORATORIES are in the basement of Maxcy Hall. There is also a greenhouse for experimental work adjoining the building. The larger laboratory is used for the elementary courses, and the smaller for advanced work. They are equipped with the necessary simple and compound microscopes, paraffin baths, microtomes, freezing apparatus, incubator, sterilizer, etc., and a considerable amount of plant material preserved in liquids, as well as dried. The Herbarium, in an adjoining room, is accessible to advanced students in forestry and medicinal and systematic botany.

THE PSYCHOLOGICAL LABORATORY occupies rooms in Wilson Hall. It possesses apparatus for the study of sensations, the determination of discriminative sensibility, the measurement of the duration of mental processes, the detection of physiological accompaniments of changes in consciousness, the study of temperament, and research in other fields. This equipment is adapted for the illustration and demonstration of the main results of experimental work in psychology, and for carrying on original research.

THE MECHANICAL ENGINEERING LABORATORIES and drafting rooms are situated in the Engineering Building. The laboratories are equipped with apparatus for the work of the courses in strength of materials, steam, gas, and hydraulic engineering, and metallography. They contain a 400,000-pound and a 50,000-pound Riehle testing machine; a machine for testing full-sized timber and steel beams; a 50,000-inch-pound Olsen torsion testing machine; a machine for testing by repeated stresses; two Riehle cement testing machines; a cross-compound condensing Corliss engine; steam turbine; various smaller engines, gas and gasoline engines, steam pumps, air compressors, injectors, and the necessary apparatus for testing them; a rotary fire pump, pulsometer, ram, Pelton wheel, turbine, Venturi meters, weirs, and measuring tanks; apparatus for investigating the nature and structure of alloys; a photographic dark room; and the usual small apparatus necessary to the work of such laboratories.

The Mechanical Engineering Shops, in Rogers Hall, are equipped with hand and machine tools for purposes of instruction in wood-working and metal-working.

THE MECHANICAL DRAWING ROOMS, accommodating two hundred and fifty students, are on the top floor of the Engineering Building. A collection of about two hundred and twenty-five models in wood and metal is extensively used in the courses. There is a dark room, with apparatus for preparing blue-prints.

THE CIVIL ENGINEERING DRAFTING ROOMS, instrument room, and offices are located on the second floor of the Engineering Building. The drafting rooms have desks for about one hundred students. The instrument room contains a complete equipment of apparatus necessary for the field work in surveying and railroad engineering. For the work in structural engineering the department has a collection of over four hundred photographs, five hundred large blue-prints of bridges, buildings, roof trusses, etc., and a set of steel structural shapes and iron beam-hangers. The department has also a collection of the various rocks used as road material, a Bausch and Lomb petrographic microscope, a set of the rail sections of the American Society of Civil Engineers, and models of railway appliances and harbor improvements.

MUSEUMS

THE MUSEUMS OF ZOÖLOGY AND ANTHROPOLOGY are in Rhode Island Hall. They are not mere exhibition rooms, but places for work. The zoölogical and anatomical collections of the University form the Jenks Zoölogical Museum. The Museum of Anthropology contains a collection of articles of dress and implements from foreign countries, and a valuable collection of stone implements of aboriginal American races, including those of Rhode Island. The museums are open to the public daily.

THE HERBARIUM is in the basement of Maxcy Hall. The general collection contains upwards of seventy-five thousand specimens from all parts of the world, but mainly from America. The cryptogams occupy ten cases and the seed-plants thirty. All of these are mounted and systematically arranged according to Engler and Prantl's *Natürliche Pflanzenfamilien*. There are also several cases of unmounted specimens and duplicates. The genus *Carex* is particularly well represented, as it was the object of much special study by Colonel S. T. Olney, the founder of the Herbarium.

THE MUSEUM OF FINE ARTS occupies the first floor of Manning Hall. It contains plaster casts of unusual excellence, chiefly from works of classical sculpture, which are of great value in illustrating ancient history, biography, and art. It also contains some original specimens of Etruscan, Graeco-Roman, and Oriental sculpture; and the George W. Harris bequest of pictures by old masters of the Italian and North European schools, and of works in marble, china, glass, bronze, and silver. Certain works in silver and china, owned by

the University through the George W. Harris bequest, are temporarily loaned to the Rhode Island School of Design, and are on exhibition at the museum of that school.

The University possesses a large collection of valuable portraits, which are hung in Sayles Memorial Hall. It now includes portraits of the University's principal benefactors, of many of its former officers, and of other distinguished persons, Americans and foreigners. The history of Rhode Island is especially well represented.

A large painting by Domenico Tintoretto, representing Moses Smiting the Rock, the gift of Mrs. Charles Bradley and the late George L. Bradley, Esq., is in the Museum of Fine Arts. Some paintings, selected from the collections of the University, are exhibited in the gallery on the top floor of the John Hay Library.

A series of fourteen oil paintings illustrating early American history, by Frank O. Small, presented to the Department of History by Samuel M. Conant, is hung in the Faculty Room in the Administration Building.

All the collections are open to the public.

EXTENSION COURSES

THE University offers during each year two series of extension courses, given at the University and open to all who desire to enter. Each course consists of ten lectures or other exercises, and, while not identical with the corresponding course offered to regular students, is equivalent in the general character and amount of the work required. Persons entering these courses may at their option attend merely as listeners, or may do the prescribed work and take the examination given at the end of the course.

On the completion of each course, certificates are issued to those who have done the work assigned and passed the examination. Each extension course of ten lectures or other exercises is regarded by the University as the equivalent of one-third of a regular three-hour course for one semester, and is accepted by the University in fulfillment of the requirements for the degree of A. B., Ph. B., and A. M., subject to such regulations respecting entrance requirements and prescribed courses as govern regularly enrolled candidates for the respective degrees. Regularly enrolled undergraduates, however, are not given credit for extension courses. For the degree of A. M., credit for extension courses may not exceed in amount two-fifths of the requirement for the degree, and the candidate must be registered with the Dean of the Graduate Department. Those who wish a certificate or university credit should announce their intention at the time of registration; all such announcements must be made not later than the third lecture of the course.

Applications for admission to extension courses should be sent to Professor Walter Ballou Jacobs, Secretary of the Committee on Extension Courses, John Hay Library, Brown University. The application should give the full name and the address of the applicant, the course or courses in which registration is desired, and, if the applicant is a teacher, the present educational position. On receipt of the fee, a card of admission is issued which must be shown at the first lecture in each course. Classes are not formed in any course for which fewer than twenty-five apply. The fee for each course is three dollars and a half, payable in advance. Students desiring a certificate or university credit pay an additional fee of one dollar and a half; this fee is due on registration and must be paid not later than the third lecture of the course. Checks should be made payable to Brown University. They should be sent with the application if possible; if not, payment may be made at the Registrar's office, Administration Building.

The courses offered during the first semester of the year 1912-13 were:

American History. Some Aspects of American Colonial Society. Professor MACDONALD.

Astronomy. The Solar System. Professor UPTON.

Education. The Learning Process. Professor COLVIN.

Engineering. Materials of Construction. Professor KENERSON.

English. The Romantic Period in English Poetry. Professor BENEDICT.

French. France of To-day. Mr. MICOLEAU.

Political Science. World Politics. Professor DUNNING.

Romance Literature. Dante's Inferno. Professor LANGDON.

Business Management. Principles of Modern Business. Mr. CHARLES C. BATCH-ELDER.

The courses offered during the second semester of the year 1912-13 were:
American History. France and England in North America. Professor MAC-
DONALD.

Astronomy. The Stars. Professor UPTON.

Education. Educational Problems. Professor COLVIN.

Engineering. Automobile Construction and Design. Professor PHETTEPLACE.

French. France of To-day. Conversation. Mr. MICOLEAU.

Political Science. American Practical Politics. Professor DUNNING.

Romance Literature. Dante's Purgatorio. Professor LANGDON.

Business Management. Investment in Stocks and Bonds. Mr. CHARLES C. BATCH-ELDER.

Courses for Nurses. Professor MEAD.

ARRANGEMENTS WITH OTHER INSTITUTIONS

THE RHODE ISLAND SCHOOL OF DESIGN

THE Rhode Island School of Design is an institution of large and increasing importance for the education of artisans and artists in the principles and processes of art, and for the general advancement of education in art by the exhibition of works of art and art studies, and by lectures. Its school buildings and museum are near the University grounds, and its collections are open daily to the public. Through its exhibitions there is opened to students an important means of culture.

The Corporation and Faculty of Brown University have agreed with the authorities of the Rhode Island School of Design upon a plan of coöperation in accordance with which certain courses at this School are open to students of the University and are counted towards a University degree. A description of these courses and a statement of the conditions under which they may be elected will be found in the list of studies given under the Department of Art, on pages 70, 71. Students from the Rhode Island School of Design are admitted to any classes in Brown University for which they are found to be prepared.

THE AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS

In 1902 a number of the friends of the University, in recognition of the sixtieth anniversary of the graduation of the late Professor Harkness, one of the founders of the American School of Classical Studies at Athens, united in contributing to the School the sum of \$5555, to establish a fund to be known as "The Albert Harkness Fund for the Benefit of Brown University." By the establishment of this fund, the privilege of free tuition in the School is secured for all adequately prepared graduates of the University. Any who desire detailed information regarding the School may obtain it by applying to Professor Poland, Professor Manatt, or Professor Allinson, members of the Managing Committee of the School.

THE NEWTON THEOLOGICAL INSTITUTION

The Newton Theological Institution has entered into an agreement with Brown University whereby certain work done in the University, for which a mark of C has been awarded, or upon which the student passes an examination satisfactory to the Faculty of the Newton Theological Institution, will be credited toward graduation in the Theological course as follows: Biblical Literature and History 1, 2, 3, 4 (132 hours); 11, 12, 13, 14 (108 hours); 15, 16,

17, 18 (112 hours); English 7 (33 hours), — in all, 385 hours. The total number of prescribed hours in the Theological course at the Newton Theological Institution is 1485.

THE TRAINING OF TEACHERS

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ARRANGEMENTS WITH THE STATE OF RHODE ISLAND

THE State of Rhode Island by act of the Legislature has entered into coöperation with Brown University for the professional instruction of college graduates who desire to become teachers in high schools, principals of high schools or elementary schools, or superintendents, or for those who already hold such positions. For this purpose the state appropriates annually \$5000. A part of this sum is employed in maintaining graduate courses in education. Part is expended in maintaining scholarships covering full tuition for a year of graduate work for the degree of Master of Arts. Holders of these scholarships must make Education their major subject, and their courses must be approved by the Department of Education. Graduate scholarships for professional studies are also granted for less than a full year of work. Appointment to these scholarships is made by the State Board of Education. Candidates must conform to the requirements for graduate students regularly fixed by the University.

ARRANGEMENTS WITH THE CITY OF PROVIDENCE

The School Committee of the City of Providence, by special agreement, appoints a number of student-teachers in the Providence High Schools. Appointments are made from Graduates of Brown University or of other institutions of equal rank, who have pursued undergraduate courses in Education. These student-teachers are of two types. Those of the first type—of whom there are at least four, two of each sex—are occupied in the schools each day for somewhat more than half the usual school session. They receive a salary of four hundred dollars a year from the city. Those of the second type are allowed to teach and observe about five hours a week. They have considerably more freedom in the choice of subjects and of hours than those of the first type; they receive no remuneration from the city. An unusual opportunity is thus afforded students to gain at the same time a knowledge of the theory of education and experience in the art of teaching. In making appointments to places as regular teachers of the lowest grade in the Providence High Schools, preference is given to those who have successfully completed this course of training as student-teachers. In this respect student-teachers of the second type have the same status before the Committee as those of the first type. The practice-teaching

in the Providence High Schools is done under the following Supervising Teachers :

Charles E. Dennis, Ph.D., *Latin*
Harriet P. Fuller, A.M., *Latin*
M. Catherine Mahy, A.M., *English*
J. Madison Gathany, A.M., *History and Civics*
Howard D. Day, A.M., *Physics*
Agnes F. Williams, A.M., *French*
Clarence H. Manchester, A.M., *English*
Edith H. Williston, A.M., *German*
Richard O. Dummer, A.M., *Physics and Chemistry*
Alden E. Hodgkins, B.S., *Mathematics*

In a similar way a number of students are appointed to places in the Providence Grammar Schools. They receive a salary of three hundred dollars a year from the city. A limited number of Seniors and Graduates who are pursuing courses in Education are allowed to observe and teach in the Grammar Schools of the city in a way similar to that provided for student-teachers of the second type in the High Schools.

STUDENT-TEACHERS IN THE CITY OF FALL RIVER

Four student-teachers have been appointed by the School Board of the City of Fall River to places in the Fall River High Schools. The work of these student-teachers is similar in kind and conditions to that of the student-teachers of the first type described under Arrangements with the City of Providence.

The practice-teaching in the Fall River High Schools is done under the following Supervising Teachers :

Ernest Cobb, Ph.B., *English*
Joseph A. Wallace, A.B., *English*
Joseph O. Carroll, B.S., *Science*

PROVISIONS FOR THE PERSONAL WELFARE OF THE STUDENTS

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PHYSICAL TRAINING

FOR the physical training of the students excellent opportunities are offered by the Lyman Gymnasium. It is thoroughly equipped with baths, dressing rooms, bowling alleys, and all kinds of apparatus usually found in modern gymnasiums. Connected with the gymnasium is the Colgate Hoyt Swimming Pool, seventy-five feet in length by twenty-five feet in width, with a capacity of seventy-five thousand gallons. All the gymnasium work is under the supervision of the Professor of Physical Training, who makes a thorough examination and measurement of each student on entrance, and at other times by request. Special cases are referred to Dr. P. P. Chase, the University Physician. Such exercises are prescribed as may be necessary to give health, strength, and symmetrical development. No student is allowed to attempt any feat which is likely to result in injury. From the close of the Thanksgiving recess to the beginning of the spring recess, all first and second year students are required to attend gymnasium exercises three times a week. For other members of the University voluntary classes are provided. The class work consists of setting-up exercises, developing exercises, calisthenics, the use of clubs, dumb-bells, wands, and single sticks, and general athletics. Instruction is also given in swimming, a special effort being made to teach all students to swim. In all the work, the aim is to develop health, strength, and vitality.

All branches of athletics are under the management of the Brown University Athletic Association, and are controlled by a board of undergraduates. The Faculty Committee on Student Organizations has general oversight of the department and scholarship of the members of the various teams. Lincoln Field adjoins the gymnasium, and is a convenient place of exercise for the class teams and the students in general. Andrews Field, which is a mile and a half from the University, offers the usual opportunities for all the University teams. The Marston Field House, the gift of Mr. Edgar L. Marston, is fitted with dressing rooms, lockers, baths, and other accommodations.

MEDICAL CARE

Any student suffering from illness is expected at once to visit or summon the University Physician, Dr. Peter P. Chase. [62 College Street. Office hours, 2 to 4 p.m.; 7 to 8 p.m. Telephone Angell 1012-W.] When called to see students at their rooms, the duty of the University Physician is to make one call for diagnosis and prescription at the expense of the University. For continued

attendance, students make their own arrangements with Dr. Chase or some other physician. All office calls are at the expense of students.

The University owns two free beds in the Rhode Island Hospital, to the occupancy of which the President of the University has the right of appointment. The first of these, THE CHARLES SMITH BRADLEY FREE BED, was established in 1872 by the payment to the hospital of four thousand dollars by the late Judge Bradley, a member of the Board of Fellows, thereby endowing a free bed "under the control of the President of Brown University for the time being, for the benefit of any officer or student of that institution who may have occasion for it." The second, THE GEORGE IDE CHACE FREE BED, was established by the payment to the hospital of four thousand dollars by the late Professor George Ide Chace; this foundation gives to the President of the University "the right to nominate and send to said hospital a patient, being a proper subject for treatment in said hospital according to the rules of the institution, to occupy a bed in said hospital, and to receive the usual care, and medical, surgical, and other attendance, and medicines and board free of charge."

STUDENT ADVISERS

As early as possible in the year the members of the Freshman class are divided into small groups, for each of which some member of the Faculty acts as special counselor. In making the assignments, the expressed preference of either student or adviser is followed whenever practicable. One meeting is usually definitely appointed; but the working of the system is entirely informal, and while it is desired that it shall lead to closer personal relations, it fulfills its chief aim if it permits each student to feel that in any emergency of his college life, great or small, he is free to claim the counsel of a mature and interested adviser.

THE BROWN UNION

The chief aim of the Brown Union is to encourage a vigorous and healthy social life in the university, to bring undergraduates, Faculty, and Alumni into closer relation than would otherwise be possible, and to unite under one roof, with competent direction, the various activities of the students. Membership is open to students, Alumni, and Faculty, and includes almost all of the undergraduates. The Board of Management consists of the President of the Union, who must be a member of the Senior class, and four members appointed by the Corporation. The Union occupies Rockefeller Hall, which is also the headquarters of the Brown Christian Association. The building affords attractive offices for the Athletic Board, Varsity Teams, the musical and dramatic clubs, the *Brunonian*, the *Daily Herald*, and the College Bookstore, rooms of various sizes for student meetings, and the usual conveniences of a social club, including large and handsomely furnished rooms for reading and lounging, an auditorium with well-equipped stage, a restaurant and lunch-counter, billiard room

and barber shop. In coöperation with the Christian Association, the Brown Union holds a series of College Nights on Tuesday evenings throughout the year. The programs include readings, musical or dramatic entertainments, and addresses of various sorts. The Secretary and Treasurer, Arthur F. Newell, '12, gives his whole time to the affairs of the Union and the Christian Association.

THE BROWN CHRISTIAN ASSOCIATION

The purpose of this Association is to unite all men who cherish Christian ideals in the service of their fellow men. It welcomes to membership all men who are connected with the University. Among its activities are frequent meetings for the discussion of religious, philanthropic, and educational problems and for devotional purposes; the arrangement of conferences with Vesper preachers; coöperation with the churches in religious and social work. It maintains an Information Bureau at the opening of the college year and an Employment Bureau (see page 174) throughout the year, which seeks to secure remunerative work for students who are dependent upon their own resources. The General Secretary, Arthur F. Newell, '12, gives his full time to the work of the Association and the Brown Union. His office is Room K, Rockefeller Hall. Other rooms in the same building are specially designated for the various activities of the Association.

RELIGIOUS SERVICES

A chapel service is held in Sayles Hall every week day at 9 a.m. The President usually conducts the exercises. Attendance is required of undergraduates.

During the winter a series of vesper services is held in Sayles Hall on Wednesday afternoons at five o'clock, open both to students and to the public.

DORMITORY ACCOMMODATIONS

IN the University dormitories there are in all one hundred and thirty-two single rooms and thirty-four suites. The rooms in Hope College, University Hall, and Slater Hall are unfurnished. Those in Maxcy Hall and Caswell Hall contain all necessary furniture, occupants providing nothing except bedclothes and towels. A table showing the rent and location of the dormitory rooms is printed in the Appendix. The prices there given include rent, heat, and service for the college year. Lighting is not included; there are meters for each room, and the occupants are charged for the amount of light used.

Each student renting a room must sign a contract therefor in the form given below, on which surety may be demanded, binding him to pay or cause

to be paid the rent of the room through the entire year. Where two students rent a room together, each must sign a contract for half the room expenses. This obligation is not impaired by the student's removal from the University, whatever the cause of such removal.

The following is a contract between Brown University, party of the first part, and the undersigned, party of the second part. I hereby engage room No. _____ in _____; the same not to be occupied by any other person without consent of the party of the first part; and I bind myself to pay or cause to be paid to the Registrar of Brown University the entire rent, including heat and service, amounting to \$ _____ for the college year beginning September, 191

It is a part of this agreement that I shall be held responsible for all damage or defacement of such room or its furniture, ordinary wear excepted; also that disuse of the room by me on account of illness, or in case registration is refused me owing to low standing or bad conduct, does not impair the obligation of this contract.

Signed _____

This day of 191 .

Not more than two students are allowed regularly to occupy a room or suite. No sub-letting of rooms will be allowed. When the University holds full contracts for a room, the tenant or tenants may admit to the use of the room in the daytime one or two students, but not more than two. The names of any such sub-tenants must be reported to the Registrar as soon as the arrangement for sub-tenancy is made. For each sub-tenant the University makes an extra charge of \$1.50 a semester for service. This sum is paid by the tenant-in-chief, if there is but one; if there are two, each pays half.

All rooms not assigned for 1914-15 before May 8, 1914, will be disposed of at a drawing on May 23 at 4.30 p.m. Men intending to enter college in September can arrange to be represented at the drawing by notifying the Registrar.

UNIVERSITY FEES

FEES FOR UNDERGRADUATES. *Tuition:* \$52.50 a semester; \$105 a year. *Incidentals:* \$24 a semester; \$48 a year. *Matriculation fee* (Freshman year only): \$5. *Graduation fee* (Senior year only): \$8.

The incidental expenses are for the printing of programs, examination papers, and the like, the use of the library and the gymnasium, heat for these buildings and for the recitation rooms, and the wages of servants to care for them.

Special students who are taking courses amounting to less than fifteen hours a week pay in proportion to the actual amount taken.

FEES FOR RESIDENT GRADUATE STUDENTS. *Tuition:* \$75 a semester; \$150 a year. *Graduation fee:* for the degree of Master of Arts, \$15; for the degree of Master of Science, \$15; for the degree of Doctor of Philosophy, \$25.

Graduate students who are taking courses amounting to less than fifteen hours a week pay \$15 a semester for each three-hour course.

A candidate in residence for the degree of Master of Arts or Master of Science who has paid full tuition for one year may, if necessary to the attainment of his degree, continue his studies for one year more without additional charge.

A candidate in residence for the degree of Master of Arts, who without remitting his studies becomes a candidate for the degree of Doctor of Philosophy, is credited with whatever tuition he has already paid, in case his previous work is allowed to count toward the higher degree.

A candidate for the degree of Doctor of Philosophy who has paid full tuition for two years may, if necessary to the attainment of his degree, continue his studies for two years more without additional charge.

FEES FOR NON-RESIDENT GRADUATE STUDENTS. *Registration fee:* \$25. *Tuition:* \$15 a semester; \$30 a year. *Examination fee:* \$15.

A non-resident candidate is entitled, upon payment of the registration and tuition fees, to take one three-hour course in residence. For each additional course taken in residence a fee of \$15 a semester is charged.

A non-resident candidate who has paid tuition for two years may, if necessary to the attainment of his degree, continue his studies for one year more without additional charge, except for work taken at the University.

LABORATORY FEES. In addition to the regular fees mentioned above, the following fees are charged for laboratory courses. \$4.50 for each three-hour semester course in *Botany, Biology, Geology, Elementary Chemistry*. \$7.50 for each three-hour semester course in *Advanced Chemistry, Mechanical Engineering, Physics, Electrical Engineering*. These fees cover the cost of ordinary supplies; special supplies and breakage are charged extra.

SPECIAL FEES. Candidates for a first degree who do not pay four years full tuition fees must pay for all extra courses counted toward the degree at the rate of \$7.50 per semester for each three-hour course. This amount must be paid at the beginning of the semester preceding the completion of the degree work. This rule does not apply to courses credited from other institutions or taken during the summer.

Candidates for the degree of A.M. or Sc.M. who do not pay full tuition fees for one year, and candidates for the degree of Ph.D. who do not pay full tuition fees for two years, must pay for all extra courses counted toward the degree at the rate of \$7.50 per semester for each three-hour course. This amount must be paid at the beginning of the semester preceding the completion of

the degree work. This rule does not apply to courses credited from other institutions.

PAYMENT OF UNIVERSITY BILLS

Every student, graduate or undergraduate, must pay in advance, at registration for each semester, all charges for tuition and incidentals for such semester.

Students occupying dormitory rooms must also pay at the above time all room charges for the semester.

Students taking laboratory courses must also pay at the above time all laboratory fees for the semester. These fees vary from \$4.50 to \$7.50 for each three-hour laboratory course.

At the beginning of the second semester all students occupying dormitory rooms or taking laboratory courses must, in addition to the payment of the above amounts, make a deposit of \$5 toward charges for light or breakage during that semester.

Freshmen, candidates for degrees, must pay at registration for the first semester a matriculation fee of \$5.

Candidates for graduation in any year must pay all graduation fees at the beginning of the second semester of that year.

ESTIMATE OF ANNUAL EXPENSES

The following is an approximate estimate of the annual expenses of a student who occupies (with a room-mate) a dormitory room. It does not include the matriculation fee of \$5 in the first year, the graduation fee of \$8 in the fourth year, nor outlay for clothes and traveling or other strictly personal expenses.

	<i>Moderate</i>	<i>Liberal</i>
<i>Tuition</i>	\$105.00	\$105.00
<i>Incidentals</i>	48.00	48.00
<i>Room rent, including heat and service</i>	60.00	187.50
<i>Board (40 weeks)</i>	180.00	240.00
<i>Books and laboratory expenses</i>	30.00	75.00
<i>Total</i>	<u>\$423.00</u>	<u>\$655.50</u>

THE BROWN UNION conducts a restaurant for its members in Rockefeller Hall; at present the price is \$5 a week.

Students who need to earn money find in the city numerous opportunities for doing so by giving private instruction, by teaching in evening schools, and in various other ways. See page 174.

FINANCIAL AID TO STUDENTS

THE aid which Brown University gives to students of limited means is granted under the following conditions: the recipient must be a candidate for a degree, having been fully admitted to the Freshman class or to advanced standing; he must be of good moral character and maintain a creditable standing in his studies: an average of C is expected; the aid will be withdrawn if the student is placed under college discipline or fails to maintain good scholarship; he must be in need of the financial assistance desired. The aid rendered is of three kinds: awards from fellowship, scholarship, and aid funds; loans; payment in cash or in credit on term bills for services rendered.

The administration of the scholarship and aid funds is in the hands of a committee of the Faculty, annually appointed by the Corporation. Applications for scholarships for a given academic year should be filed with the Secretary of the Committee on Scholarships as early as possible after April 1. The Committee will take action in each case as soon as all the requisite information is received. The President has charge of the administration of fellowships, loan funds, and the service system.

FELLOWSHIP, SCHOLARSHIP, AND AID FUNDS

THE GRAND ARMY OF THE REPUBLIC FELLOWSHIP. The income of a fund of ten thousand dollars given by the Grand Army of the Republic, Department of Rhode Island, is annually awarded to a graduate of Brown University, of acknowledged excellence in scholarship and character. The recipient must be enrolled as a candidate for the degree of Doctor of Philosophy or have obtained that degree, must reside at Brown University, and must devote himself exclusively to advanced liberal study. Holders of the fellowship are appointed by the President of the University, subject to the approval of the Board of Fellows. Appointments to the fellowship are regularly made for one year, but incumbents of special diligence or ability may be reappointed. Descendants of Union Veterans of the Civil War are always to be preferred when the other qualifications of candidates are equal. The political or religious preferences of candidates cannot be taken into consideration. The President is authorized to make such other conditions, not inconsistent with the above, as he may from time to time deem wise and proper. Applications for this fellowship must be made in writing on blanks furnished by the Dean of the Graduate Department, and must be in the hands of the President not later than April 15. The Grand Army of the Republic Fellow for 1913-14 is

ROBERT GAMBLE CASWELL

THE OLIVER CROMWELL GORTON ARNOLD BIOLOGICAL FELLOWSHIP. This is a fund of ten thousand dollars given by Dr. Oliver Henry Arnold in memory of his father. The income, or any part of it, is given annually, according to the judgment and the discretion and under the direction of the President and the head of the Biological Department, for post-graduate work, to any student, either male or female, of good character, who is a graduate of any collegiate institution of recognized standing and who has shown during his or her college course great diligence, talent, and marked ability in biological work. If in any year there should be more than one applicant for this fellowship, the President and the head of the Biological Department select a beneficiary from the results of a competitive examination as well as from the known ability of the student to conduct original research giving promise of a successful career. Should there be more than one candidate of exceptional merit, the income of this fund may be divided between two of them, but it may be given to one of them should it seem best to the President and the head of the Biological Department. In awarding this fellowship, other qualifications being equal, the candidate most in need of assistance will be selected. Should any beneficiary prove in any manner unworthy of assistance it shall be discontinued, and should a beneficiary give evidence of great ability for conducting original research and a promise of large usefulness in his or her professional career this income may be continued to him or her for one, two, or three years, according to the judgment of the President and the head of the Biological Department. Should the income of this fund, or any part of it, not be used in any year, the unused amount shall be set aside as a fund to be used in any succeeding year in assisting any student in post-graduate research work in the Biological Department who shall have all the qualifications mentioned in the preceding sections; or it may be used for any of the necessary and legitimate expenses for the advancement of research work in the Biological Department.

THE EMMA JOSEPHINE AYER ARNOLD ARCHAEOLOGICAL FELLOWSHIP. This is a fund of ten thousand dollars given by Dr. Oliver Henry Arnold in memory of his wife. It is primarily for the Women's College (see page 233). But in case no graduate of the Women's College fulfills the conditions, the income of this fund may be paid, with the consent of the Dean of the Women's College, for one year, for post-graduate archaeological study, to some male student amply fulfilling all of the above conditions, first, to some member of the graduating class of the University, or second, to any graduate of the University who has been a graduate for not more than ten years. The candidate must be approved by the President of the University and the professors of the Greek and Latin Departments.

TEACHING FELLOWSHIPS. In addition to the foregoing a number of Teaching Fellowships have been established, information regarding which will be furnished by the President.

FUNDED SCHOLARSHIPS. There are now seventy-seven scholarships of one thousand dollars, each yielding the beneficiary fifty dollars annually. With the exceptions indicated below, they bear the names of their founders. The income is awarded annually according to the conditions attaching to each fund.

THE ELEVEN NICHOLAS BROWN SCHOLARSHIPS

THE FOUR UNIVERSITY SCHOLARSHIPS

THE PRESIDENT'S SCHOLARSHIP, founded by President Sears.

THE SIX ALVAH WOODS SCHOLARSHIPS

THE JAMES H. DUNCAN SCHOLARSHIP

THE ISAAC DAVIS SCHOLARSHIP

THE ARNOLD WHIPPLE SCHOLARSHIP, founded by Mrs. Arnold Whipple.

THE EPHRAIM WHEATON SCHOLARSHIP, founded by James Wheaton.

THE JOSEPH BROWN SCHOLARSHIP, founded by Mrs. E. B. Rogers.

THE GARDNER COLBY SCHOLARSHIP

THE CROCKER SCHOLARSHIP, founded by Robert H. Ives and Thomas P. Ives, Trustees.

THE CLARK SCHOLARSHIP, also founded by the Messrs. Ives.

THE GEORGE K. AND H. A. PEVEAR SCHOLARSHIP

THE JOSEPH CHARLES HARTSHORN SCHOLARSHIP

THE ROGERS HIGH SCHOOL SCHOLARSHIP, founded by William Sanford Rogers.

THE JAMES WHEATON SCHOLARSHIP

THE CHARLES THURBER SCHOLARSHIP

THE PARDON MILLER SCHOLARSHIP, founded by Mrs. Ann E. Miller.

THE HEZEKIAH S. CHASE SCHOLARSHIP

THE WILLIAM BUCKNELL SCHOLARSHIP

THE AUSTIN MERRICK SCHOLARSHIP, founded by Mrs. Olive E. Merrick.

THE HORATIO N. SLATER SCHOLARSHIP

THE EARL P. MASON SCHOLARSHIP

THE NEWPORT SCHOLARSHIP, founded by William Sanford Rogers.

THE ALEXIS CASWELL SCHOLARSHIP

THE THREE HENRY JACKSON SCHOLARSHIPS

THE MUMFORD SCHOLARSHIP, founded by Mrs. Louisa D. Mumford.

THE ALBERT DAY SCHOLARSHIP

THE HENRY P. KENT SCHOLARSHIP

THE ROMEO ELTON SCHOLARSHIP

THE FIVE ANNIE E. WATERS SCHOLARSHIPS

THE LEWIS FAIRBROTHER SCHOLARSHIP, founded by Mrs. Lewis Fairbrother.

THE GEORGE LAWTON SCHOLARSHIP

THE JOHN P. CROZER SCHOLARSHIP, founded by Mrs. Margaret Bucknell.

THE JAMES Y. SMITH SCHOLARSHIP

THE TWO S. S. BRADFORD SCHOLARSHIPS

THE FRANCIS R. ARNOLD SCHOLARSHIP

THE CORNELIA E. GREEN SCHOLARSHIP

THE TWO HENRY CLIFFORD KNIGHT SCHOLARSHIPS, founded by Miss Amelia S. Knight, in memory of her brother, a member of the class of 1875.

THE THURSTON SCHOLARSHIP, founded by the Honorable Benjamin F. Thurston, of the class of 1849.

THE RUFUS BABCOCK SCHOLARSHIP, founded by Mrs. Caroline Vassar Babcock Jones, in memory of her father, the Rev. Rufus Babcock, of the class of 1821.

THE JAMES FLETCHER BLACKINTON SCHOLARSHIP, founded by Mrs. Mary D. Blackinton, in honor of her husband, James Fletcher Blackinton, of the class of 1847.

THE SAMUEL WHITE DUNCAN SCHOLARSHIP, founded by Mrs. Mary Duncan Harris.

THE FIVE WILLIAM A. WHITE SCHOLARSHIPS, founded by Mrs. Abby S. A. White, in honor of her husband, William A. White, of the class of 1857.

THE RICHARDS SCHOLARSHIP, founded by the Rev. William Coolidge Richards, of the class of 1837.

THE BENJAMIN HUTCHINSON JUDAH SCHOLARSHIP

THE S. DRYDEN PHELPS SCHOLARSHIP, founded by the Rev. S. Dryden Phelps, of the class of 1844, the income to be given each year to some student who is preparing for the Baptist ministry.

THE ELIOT LOOMIS COLLINS SCHOLARSHIP, founded by Clarkson A. Collins in memory of his son, Eliot Loomis Collins, of the class of 1910, "the income to be given each year to some member of the Junior class needing pecuniary aid, who may possess his characteristic qualities of earnestness of application, steadfastness of character, and cheerful personality."

THE E. BENJAMIN ANDREWS SCHOLARSHIP, founded by the class of 1898.

THE JOSIAH NELSON CUSHING SCHOLARSHIP, founded by Samuel H. Tingley, Esq., in memory of Rev. Dr. Josiah Nelson Cushing, of the class of 1862, for forty years missionary in Burmah.

There are also the following scholarships of larger amounts:

THE TWO GEORGE J. SHERMAN SCHOLARSHIPS, paid from the income of a fund of two thousand five hundred and sixty-five dollars.

THE BARTLETT SCHOLARSHIP of four thousand dollars, founded by Mrs. Elizabeth Slater Bartlett; the income to be "devoted to the support of one or more students needing pecuniary aid, and giving promise, by studious aim and by character and scholarship, of rising to distinction and usefulness."

THE GLOVER SCHOLARSHIP of five thousand dollars, founded by Henry R. Glover, "in memory of his father, Samuel Glover, of the class of 1808, and of his brother, Samuel Glover, Jr., of the class of 1839."

THE REBECCA A. WHEELER SCHOLARSHIP of fifteen hundred and seventy-one dollars; the income to assist some worthy student, preferably a candidate for the Baptist ministry.

THE SCHOLARSHIP OF THE CLASS OF 1838 of thirty-eight hundred dollars.

THE JOSEPH CHARLES HARTSHORN SCHOLARSHIP of two thousand dollars.

THE TWO BANIGAN SCHOLARSHIPS of three thousand dollars each, founded by Joseph Banigan, of Providence; the income as far as necessary to be used each year to defray the tuition of two students of the University.

THE GEORGE IDE CHACE SCHOLARSHIP of five thousand dollars, founded by Professor George Ide Chace, the income to be assigned each year by the Faculty to some member of the Senior class needing the money, who shows "marked ability, exemplary industry, generous aspirations, and irreproachable character." If in the Senior class there chances to be no person fulfilling the requirements of this scholarship, the proceeds of the scholarship for that year must be appropriated to the purchase of books for the Library of the University.

THE ABBY WHEATON CHACE SCHOLARSHIP of four thousand dollars, also founded by Professor George Ide Chace, the income to be assigned yearly by the Faculty to some member of the Junior class needing the money, who shows "marked ability, exemplary industry, generous aspirations, and irreproachable character." If in the Junior class there chances to be no person fulfilling the requirements of this scholarship, the proceeds of the scholarship for that year must be appropriated to the purchase of books for the Library of the University.

THE JOHN L. LINCOLN SCHOLARSHIP of twenty-five hundred dollars, founded by Abby G. Beckwith.

THE TRUMAN BECKWITH SCHOLARSHIP of twenty-five hundred dollars, founded by Abby G. Beckwith.

THE THAYER SCHOLARSHIP, founded by Edward C. Thayer, in honor of his father, Joseph Thayer, of the class of 1815; the income to be for the education of any young man or woman a resident of Uxbridge, Massachusetts, indorsed by the selectmen and superintendent of schools there, needing pecuniary aid, and giving promise by character and scholarship of a life of

usefulness. If there is no applicant from Uxbridge, the income may go to any applicant from Massachusetts who fulfills the conditions.

THE TWO WALTER G. WEBSTER SCHOLARSHIPS, founded by the Rev. Walter G. Webster, of the class of 1878; the income to go each year to two young men, members of the Freshman class, holding the full diploma of the Classical High School of the City of Providence and duly matriculated for the degree of Bachelor of Arts; "the nomination to rest with the Principal of said school, and to be made on the basis of character and scholarship, due regard being had to the need of such assistance."

THE S. W. MARSTON SCHOLARSHIP, founded in the name of his father by Edgar L. Marston. This scholarship yields two hundred dollars a year, and is open to any graduate of William Jewell College who may be recommended by the President of that institution.

THE THREE E. L. MARSTON SCHOLARSHIPS, founded by Edgar L. Marston. Each of these scholarships yields two hundred dollars a year. The first scholarship is open to any graduate of La Grange College who may be recommended by the President of that institution. The second is open to any graduate of Baylor University under similar conditions. The third is open to any graduate of the Central High School in St. Louis, Missouri, subject to the recommendation of the Principal.

THE EATON SCHOLARSHIP of two thousand dollars, founded in memory of her husband by Mrs. Caroline B. Eaton; the income to be used "in the aid of indigent Baptist young men having the ministry in view, preference being given to young men from New Hampshire."

THE ALEXANDER FARNUM SCHOLARSHIP of two thousand dollars, founded by the Rev. Augustus Woodbury; the income to be given to such student as the Faculty shall select, the primary condition being that such student shall have been prepared for college at Phillips Exeter Academy in Exeter, New Hampshire.

THE ALBERT HARKNESS SCHOLARSHIP of three thousand dollars, founded by Professor Albert Harkness; the income to be paid annually under the direction of the Faculty to some student of excellent character and high scholarship who shall be in need of pecuniary aid.

A FRIEND'S SCHOLARSHIP of five thousand dollars, founded by a friend of the University, the income to be awarded annually to some student in need of aid.

THE ELLEN READ NEWELL SCHOLARSHIP of three thousand dollars, founded by George W. Newell in memory of his wife; "the income to be expended (1) in behalf of some worthy graduate of the Pawtucket High School who may need financial help, (2) to such other meritorious student as the President or Faculty may designate."

THE FRED HOMER WILLIAMS SCHOLARSHIP of fifteen hundred dollars; the in-

come to be awarded to some needy and worthy young man, preference being given to a graduate of the High School in Foxborough, Massachusetts.

THE GEORGE WOODLEY HOGG SCHOLARSHIP of five thousand dollars, in memory of George Woodley Hogg, of the class of 1894, the income to be awarded annually to either one or two students at the discretion of the Scholarship Committee, preferably, though not necessarily, to students residing in the State of Rhode Island.

THE DAVID W. HOYT SCHOLARSHIP of two thousand dollars, founded by the Alumni Association of the Providence English High School; the income to go each year to some young man or woman designated by the Principal or the Acting Principal, for the time being, of the Providence English High School, subject to the approval of the President or the Acting President of Brown University.

AID FUNDS. There are nine aid funds at the disposal of the University. The income of these funds is divided into scholarships of varying amounts, which are awarded under the general conditions applicable to all scholarships. They are as follows:

THE AARON LUCIUS ORDWAY MEMORIAL FUND of twenty-five hundred dollars, founded by Samuel H. Ordway in the name of his father, "the income to be used in the discretion of the President to assist regular students of the University who are in need of assistance. Each student who accepts such assistance shall in writing acknowledge the receipt of the same and pledge himself to repay the amount so received by him as soon as he can conveniently afford to do so, all sums so repaid to be added to the principal."

THE NANCY GOODNOW FUND of two thousand dollars, the income to be expended in assisting one or more students of the University who are preparing to be ministers of the Baptist denomination in the United States.

THE AID FUND, established by friends of the University in 1868 and now amounting to ninety-three hundred dollars.

THE DANIEL WANTON LYMAN FUND FOR STUDENTS, established by Daniel Wanton Lyman and now amounting to \$72,250.

THE WILLIAM GROSEBECK GODDARD MEMORIAL FUND of thirty-five hundred dollars, founded by Col. Robert H. I. Goddard in the name of his son, "the income to be used by the President or Acting President of the University, in his discretion, to aid young men without adequate means to obtain an education. Each beneficiary shall give a receipt for all money received, and shall agree, without making any written pledge, to refund amounts received by him whenever he can do so conveniently."

THE EDWIN A. W. HARLOW FUND, founded by Edwin A. W. Harlow, now amounting to \$10,400, the income to be "for assisting poor young men of excellent moral character in the Academic Department."

THE ROBERT H. HARLOW FUND of three thousand dollars, founded by Robert H. Harlow, the income to be "for assisting poor young men of excellent moral character in the Academic Department."

THE BENJAMIN BRAMAN FUND of one thousand dollars, the income to be granted annually to some worthy Christian student of limited means.

THE JAMES STANTON KENYON MEMORIAL FUND of three thousand dollars, founded by his daughters, Elizabeth Burrows Kenyon Wilkinson and Mary Stanton Kenyon, the income to be used to aid worthy young men of high personal character and of diligent application to their studies. Each beneficiary shall agree, without making any written pledge, to refund amounts received by him whenever he can do so conveniently, all sums so repaid to be added to the principal.

UNIVERSITY SCHOLARSHIPS. In addition to the income of the Scholarship and Aid Funds, there have been established University scholarships, which are of three grades:

(1) A small number yielding each \$75 a semester or \$150 a year, awarded to a few Juniors and Seniors of especially high scholarship.

(2) A number yielding each \$50 a semester or \$100 a year.

(3) A number yielding each \$25 a semester or \$50 a year, used in part to supplement the smaller endowed scholarships, and also for those students needing relatively less assistance.

It is expected that the holders of these scholarships will regard them as in a certain sense loans, and will at some time after graduation return to the treasury the amount awarded, to be used for the increase of the permanent scholarship funds, or that they will in some other way contribute to the endowment of the University.

[B] LOAN FUNDS

I. The Alumni Loan Fund, now amounting to about forty-three hundred dollars, was established by the Alumni Association at the Commencement of 1900 by a vote transferring to the Treasurer of the University the fund formerly known as the Brown Loyalty Fund, to be used as a loan fund for students. The principal of this fund is loaned at interest, to be repaid as agreed upon in each instance.

II. There is another fund, of several hundred dollars, which is loaned in small amounts without interest, for short periods, to students unexpectedly needing temporary assistance.

[C] SERVICE

The University is able to give employment to a number of students as monitors, assistants in the libraries and laboratories, members of the choir, and clerks in the Registrar's office. Not more than two hours a day are ordinarily

required of any student; the compensation is made at definite rates. At present about six thousand dollars a year is appropriated for service, and employment is given to about eighty students, who receive amounts varying from thirty dollars to sixty dollars a semester.

The University also coöperates with the Christian Association in securing employment for students by business houses and residents of the city. Students who desire any kind of work are requested to make application to the General Secretary of the Brown University Christian Association, Rockefeller Hall.

PREMIUMS, PRIZES, AND HONORS†

FOR EXCELLENCE IN PREPARATORY STUDIES

THE PRESIDENT'S PREMIUMS, derived from the income of a fund presented to the University in 1843 by President Wayland, supplemented from the income of the Hicks Prize Fund, No. 2, are awarded each year to those members of the Freshman class who upon examination are found to excel in the studies required for admission to the University in Greek and Latin. First and Second Premiums are awarded in each of these studies. The examinations deal with the general principles and laws of the languages involved rather than with irregularities and exceptions. Special importance is attached to the pupil's familiarity with the subject-matter of the works read, and to his ability to translate with accuracy and facility into clear, appropriate, and idiomatic English. The examination in Greek is held in 5 Maxcy Hall at 2.30 p.m. on the second Saturday of the first semester, and that in Latin in 1 Sayles Hall at 2.30 p.m. on the third Wednesday. The award of these premiums in 1913 was as follows:

In Greek the first premium to DANIEL PARKHURST SPALDING, instructed in the Classical High School, Providence.

The second premium to ROBERT GUSTAVUS DANIEL LJUNGGREN, instructed in the Classical High School, Providence.

In Latin the first premium to DANIEL PARKHURST SPALDING, instructed in the Classical High School, Providence.

The second premium to CLARENCE HENRY WOODMANSEE, instructed in the Classical High School, Providence.

† The premiums and prizes enumerated here are, with the exception of the *Society of Colonial Dames Prize in American History* (see page 234), intended for men. The students of the Women's College are, however, entitled to compete in all examinations for premiums and prizes offered in Brown University. In case any woman is entitled to a first premium, one is awarded her by the Dean of the Women's College. For premiums awarded to women in 1913 see pages 233, 234.

THE HARTSHORN PREMIUMS IN MATHEMATICS, derived from the income of a fund of one thousand dollars presented to the University in 1872 by Joseph Charles Hartshorn, of the class of 1841, are awarded each year to the two members of the Freshman class who upon examination are found to excel in the mathematical studies required for admission to the University. The examination is held in 27 Wilson Hall at 2 p.m. on the third Saturday of the first semester. The award of these premiums in 1913 was as follows:

The first premium to BANCROFT HUNTINGTON BROWN, instructed in Hyde Park High School, Boston, Mass.

The second premium to HENRY ELDRIDGE SWEET, instructed in the Classical High School, Providence.

THE ENTRANCE PREMIUMS IN FRENCH, derived from the income of the Hicks Prize Fund, No. 2, are awarded each year to the two members of the Freshman class who upon examination are found to excel in the French studies required for admission to the University. The examination is held in 1 Sayles Hall at 2 p.m. on the fourth Wednesday of the first semester. The award of these premiums in 1913 was as follows:

The first premium to ROBERT GUSTAVUS DANIEL LJUNGGREN, instructed in the Classical High School, Providence.

The second premium to JOHN THOMAS McQUAID, instructed in the High School, Pawtucket, R. I.

THE CAESAR MISCH ENTRANCE PREMIUMS IN GERMAN are awarded each year to the two members of the Freshman class who upon examination are found to excel in the German studies required for admission to the University. The examination is held in 5 Sayles Hall on the fourth Saturday of the first semester. The award of these premiums in 1913 was as follows:

The first prize to ISAAC YALE OLCH, instructed in the Classical High School, Providence.

The second prize to GILBERT CONGDON CARPENTER, instructed in the Hope Street High School, Providence.

FOR EXCELLENCE IN UNIVERSITY STUDIES

THE CARPENTER PRIZES FOR ELOCUTION, derived from the income of a fund established in 1867 by Thomas Carpenter, are awarded each year to the three students to whom are assigned the first, the second, and the third rank of excellence in elocution. The competition is open to all members of the Sophomore class, and to those members of the Junior class who did not enter the preliminary competition in their Sophomore year. The selections declaimed may be either prose or verse. They must be approved by the Professor of Public Speaking, with whom competitors must enter their names not later than the first day of February. A preliminary contest for

the purpose of selecting the speakers takes place in the early part of the first semester; all arrangements for it are in the hands of the Professor of Public Speaking. The committee of award consists of five members,—the Professor of Public Speaking, who is the chairman, two persons selected by the Corporation, and two persons selected by the Sophomore class during the first semester of the year; no one who is or has been a member of the class is eligible to membership in the committee. In 1914 the contest will be held in Manning Hall on April 28. In 1913 these prizes were awarded as follows:

The first prize to PETER FRANCIS DUGAN

The second prize to WALTER HOFF SPRAGUE

The third prize to WILLIAM RUSSELL BURWELL

THE HICKS PRIZES FOR EXCELLENCE IN DEBATE, established by the Honorable Ratcliffe Hicks, of the class of 1864, are annually awarded as follows:

I. Two prizes of fifty dollars each, one in each of the two series of contests for the selection of the representatives of the University in the inter-collegiate debates. In each instance the prize is given to the man showing the greatest ability both in the preliminary trials and in the final trial. In awarding the prize, regard is given to thought, style, and delivery. The judges are three, appointed by the Debating Union. In 1913 these prizes were awarded to

IRA LLOYD LETTS and JOHN KENT STARKWEATHER

II. A first prize of thirty dollars and two second prizes of twenty dollars to the students showing the greatest ability in a public debate between the representatives of the Junior and Sophomore classes. Each class is represented by three men, whom a committee appointed by the President of the University chooses from the preliminary contestants at least a month before the public debate. This committee also determines the subject and makes the necessary arrangements. The judges in the public debate are three, one appointed by the President, and one by each group of competitors. The prizes are awarded irrespective of the decision upon the debate as a whole. Any one prize may be withheld if no one is adjudged to deserve it. In making the award, regard is given to thought, style, and delivery. In 1914 the public debate will be held on May 12. In 1913 these prizes were awarded as follows:

The first prize to WILLIAM ARTHUR NEEDHAM

The second prizes to JAMES JOSEPH MCGOVERN and NAHUM MORRILL

THE DUNN PREMIUM. The income of a fund of one thousand dollars, presented to the University in 1872 by pupils and friends of Professor Robinson Potter Dunn, is given, at the end of the Junior year, to the student having the highest standing in the courses in rhetoric, English composition, and pub-

lic speaking. In making the award, regard is given to the number of such courses taken as well as to the rank attained in them. In 1913 this premium was awarded to

MARION KENNETH FORWARD

THE CARPENTER PREMIUMS, two in number, are derived from the income of funds established in 1867, one by Thomas Carpenter and one by Lydia Carpenter. They are assigned at the end of the Senior year to the two members of the Senior class who, "already on scholarships, shall, in the judgment of the Faculty, unite in the highest degree the three most important elements of success in life,—ability, character, and attainment." In 1913 these premiums were awarded to

HARRY CHAMBERLAIN BROWN and HAROLD ALDEN GROUT

THE HOWELL PREMIUM. The income of a fund amounting to one thousand dollars, presented to the University in 1867 by Gamaliel Lyman Dwight, is given at the close of the first semester of the Senior year to the student who, "having a good record of deportment, has the highest rank in Mathematics and Natural Philosophy." To be considered a candidate for the premium, a student must, in each semester from the Freshman year to the end of the first semester in the Senior year, take at least one of the elective courses in pure or applied mathematics. In 1913 this premium was awarded to

HAROLD ALDEN GROUT

THE CLASS OF 1873 PRIZE. The income of a fund of one thousand dollars, presented to the University by the class of 1873, is awarded each year to that member of the Senior class who writes the best essay on a historical or a philosophical subject. The subjects, which are of a historical nature one year and of a philosophical nature the next, are assigned by the respective departments. For 1913-14 the subject is: *English Political Ethics in the Eighteenth Century*. For 1912-13 the subject was: *The Origin, Nature, and Meaning of Religious Experience*. The prize was awarded to

GEORGE BOAS

THE FOSTER PREMIUM IN GREEK is derived from the income of a fund of three thousand dollars bequeathed to the University in 1880 by the Honorable Lafayette Sabine Foster, of the class of 1828. In accordance with the terms of the donor's will, the income of this fund is to be "annually paid to that scholar of the institution who passes the best examination in the Greek language, the examination to be made in the first, third, and twenty-fourth books of Homer's *Iliad*, or in the *Oration on the Crown* by Demosthenes." The examinations are open to the members of the Senior class. The next examination will be held early in May, 1914; candidates will be examined in the *Iliad*. In 1913 the premium was awarded to

ALBERT PRAY MARTIN

THE LUCIUS LYON PREMIUMS IN LATIN are derived from the income of a fund of five thousand dollars presented to the University in 1893 by Mrs. Caroline L. Lyon, in memory of her husband, Lucius Lyon, of the class of 1844. Five-tenths of the income each year forms the first premium, three-tenths the second, and two-tenths the third. Any part of the income not needed in any given year must be added to the fund. The premiums are awarded on the basis of a special examination held during the second semester of the Senior year. The examination may relate to any or all of the following subjects: the Latin language, Roman literature, Roman history. The President of the University and the head of the Department of Roman Literature and History prescribe the conditions for admission to the examination. In 1913 the premiums were awarded as follows:

The first premium to GEORGE BOAS

The second premium to CLIFFORD JOHN STEVENS

THE BENNETT PRIZE. The income of a fund of four hundred dollars, established by Philo S. Bennett in 1905, will be awarded annually for an essay on Free Government. The conditions governing the competition will be announced later.

THE CLASS OF 1880 PRIZES, established in 1905 by the class of 1880, are awarded each year to the undergraduates of Brown University who show the most ability in presenting arguments on some current question of importance to Brown University. The subject for discussion, the time, and the manner of presentation are all determined by representatives of the English department in consultation with the president of the Debating Union and the editors-in-chief of the *Brunonian* and the *Brown Daily Herald*. The prizes are awarded by a board of five judges: two are appointed by the President of the University, two by the undergraduate members of the committee in charge; the fifth is a member of the English department.

In 1913-14 a first prize of thirty-five dollars and a second prize of twenty-five dollars will be awarded to the students who show the most ability in a public discussion of the subject: *What is the best method of dealing with the problem of Board for the students of Brown University?* This discussion will be held on December 10; a preliminary discussion will be held on December 3. A first prize of twenty-five dollars and a second prize of fifteen dollars will be awarded to the writers of the best argumentative essays of from three thousand to five thousand words upon the same subject. The essays must be signed with an assumed name; they must be in the hands of the Registrar before 4 p.m., December 5. Either prize for the essay may be withheld if the judges deem it best. A student may enter both competitions. For 1912-13 the subject was: *How should the system of "rushing" students for fraternities at Brown be improved?* The prizes were awarded as follows:

The first prize for the discussion to LOUIS ISRAEL NEWMAN

The second prize for the discussion to EDWARD ANDREW CUSHMAN MURPHY

The first prize for the essay to JOHN KENT STARKWEATHER

The second prize for the essay to RALPH BRINCKERHOFF CRUM

THE SOCIETY OF COLONIAL DAMES PRIZE IN AMERICAN HISTORY. The income of a fund of fifteen hundred dollars, known as The Roger Williams Fund established by the National Society of Colonial Dames in the State of Rhode Island and Providence Plantations, given to the University in 1906, is awarded each year as a prize for the best essay on a subject in American colonial history. The competition is open to Juniors, Seniors, and Graduates, and to men and women on equal terms. Essays must show independent use of authorities, and should, in general, extend to at least four thousand words. Detailed regulations governing the competition are announced from year to year, and the name of the successful competitor is announced at Commencement. The subject for the essay in 1913-14 is: *A Comparative Study of Religious Liberty in Rhode Island and in Maryland during the Seventeenth Century*. For 1912-13 the subject was: *The History of Paper Money Controversies in Rhode Island*. The prize was awarded to

JOHN KENT STARKWEATHER

THE BISHOP McVICKAR PRIZES were founded by the late Rt. Rev. William N. McVickar, Bishop of the Protestant Episcopal Diocese of Rhode Island, and are continued by his sister, Miss E. C. McVickar. A first prize of fifty dollars, and a second prize of twenty-five dollars, is awarded for the best essays of from three to four thousand words on a subject assigned by the Department of Biblical Literature. The competition is open to undergraduate men who are, or have been, students in the Department of Biblical Literature. Those who intend to compete must give their names to the head of the department not later than March 1, and essays, under an assumed name, must be delivered to the Registrar not later than the first Saturday in May. For 1913-14 the subject is: *The Historical Sources for the Life of Jesus*. For 1912-13 the subject was: *The Story of Joseph*. The prizes were awarded as follows:

The first prize to DANIEL HARRISON KULP

The second prize to EARLE HENRY BLANCHARD

THE WILLIAM GASTON SCHOLARSHIP. This fund of five thousand dollars was established in 1899 by the widow and children of the Honorable William Gaston, LL.D., of the class of 1840. Its income is awarded annually by the Faculty solely upon merit, without reference to financial condition. For 1913-14 this scholarship was awarded to

ARTHUR WILLIAM CATE

THE GASTON PRIZE MEDAL FOR EXCELLENCE IN ORATORY. From the income of a fund of three thousand dollars established in 1894 as a memorial to

the Honorable William Gaston, LL.D., of the class of 1840, a gold medal is annually awarded to the member of the graduating class who delivers the best original oration in English. The orations are not to exceed fifteen hundred words. In order to compete for the prize, a student must deposit with the Registrar a typewritten copy of his oration, signed with an assumed name, six weeks before the public competition. From these orations a committee appointed by the President of the University selects not more than six for delivery. The committee of award in the final contest consists of three members appointed by the President. In making the award, regard is given to thought, style, and delivery. The winner of the medal is entitled to deliver an oration at Commencement. In 1914 the orations must be deposited with the Registrar on or before March 25; the public competition will be held on May 5. In 1913 this prize was awarded to

LOUIS ISRAEL NEWMAN

HONOR SCHOLARSHIPS

To encourage proficiency in studies and to provide recognition for successful application to college work, the Faculty has established Honor Scholarships without aid as follows:

THE JAMES MANNING SCHOLARSHIPS, awarded to those undergraduates whose work throughout the year has been of such excellence that they are deemed worthy of very high academic distinction.

For 1912-13 these scholarships were awarded as follows:

Class of 1913

Harry Chamberlain Brown Harold Alden Grout
Clarence Newton Reynolds, Jr.

Class of 1914

Arthur William Cate Frederick Rowland Hazard, Jr.
Raymond Abner Preston

Class of 1915

Ismar Baruch Ralph Leon Blanchard

Class of 1916

Claus Emanuel Ekstrom Harry Weeden Underwood
Irving Clough White

THE FRANCIS WAYLAND SCHOLARSHIPS, awarded to those undergraduates who have shown marked excellence in their work, but have not attained the standard required for the James Manning scholarships.

For 1912-13 these scholarships were awarded as follows :

Class of 1913

Samuel Tomlinson Arnold	Ralph Brinckerhoff Crum
Frank Carleton Blake	William Mason Howe
Ralph Everett Burnham	Thomas Howarth Roberts

Class of 1914

Herbert Elliott Foote	James Joseph McGovern
Chester Lewis Knowles	Halsey Reginald Nash

Class of 1915

William Russell Burwell	Frederick Hartwell Greene
Samuel Greene Arnold Rogers	

Class of 1916

Abraham Jacob Burt	George Joseph Aloysius Cairns
Walter Sumner Hayward	John Alexander Ryrie

APPOINTMENTS FOR COMMENCEMENT

At Commencement four members of the graduating class deliver original orations in English of not more than fifteen hundred words each. One speaker is the winner of the Gaston medal; the others are appointed by the Faculty on the recommendation of a special committee on Commencement speakers. The basis of selection is scholarship, ability to write, and ability to speak. In 1913 the speakers selected by the Faculty were:

HAROLD ALDEN GROUT	JOHN KENT STARKWEATHER
WILLIAM MATTHEW SULLIVAN	

FINAL HONORS

FINAL HONORS in any department are awarded, at the completion of the studies leading to a bachelor's degree, to those who have secured: (1) A mark of A in courses in the department aggregating twelve or more semester hours; (2) a mark of B or A in eighty-five per cent of all their courses of study. In any department, however, certain specified courses may not be included in those counted for Final Honors. The names of all students awarded Final Honors are printed in the Commencement Program and in the Annual Catalogue. In 1913 the awards were as follows:

CHARLES HARLAN ABBOTT, *Biology*.

SAMUEL TOMLINSON ARNOLD, *Chemistry*.

FRANK CARLETON BLAKE, *Electrical Engineering, Mathematics, Physics*.

GEORGE BOAS, *English, Philosophy, Roman Literature and History*.

HARRY CHAMBERLAIN BROWN, *Electrical Engineering, Mathematics, Physics*.

- RALPH EVERETT BURNHAM, *Mechanical Engineering, Physics.*
 RALPH BRINCKERHOFF CRUM, *English.*
 JOHN HOUSTON CUSHMAN, *Romance Languages and Literatures.*
 WILLIAM LEARNED DEALEY, *Social and Political Science.*
 ADRIAN GORDON GOULD, *Biology, Chemistry.*
 HAROLD ALDEN GROUT, *Mathematics.*
 LEON CLIFFORD HIGH, *English.*
 KARL HENRY KOOPMAN, *English.*
 ANDREW HAMILTON MCPHAIL, *Romance Languages and Literatures.*
 ALBERT PRAY MARTIN, *Greek Literature and History.*
 CLARENCE HORACE PHILBRICK, *English.*
 CLARENCE NEWTON REYNOLDS, JR., *Mathematics, Philosophy.*
 THOMAS HOWARTH ROBERTS, *Chemistry.*
 THOMAS CLARK SHEDD, *Mechanical Engineering.*
 WALTER HENRY SNELL, *Biology, Roman Literature and History.*
 JOHN KENT STARKWEATHER, *English, History, Roman Literature and History.*
 WILLIAM MATTHEW SULLIVAN, *English, History, Roman Literature and History,*
Social and Political Science.
 NORMAN STEPHEN TABER, *Mathematics.*
 PAYSON WAITE TUCKER, *Chemistry.*
- MARY ELIZABETH BARNICLE, *English, Greek Literature and History, Philosophy,*
Roman Literature and History.
 JESSIE HELEN BARR, *English, Romance Languages and Literatures.*
 MARION HORTENSE BAYLEY, *English, Roman Literature and History.*
 IRENE MARY CECILIA BELANGER, *Romance Languages and Literatures.*
 ALINE BOURGEOIS, *Romance Languages and Literatures, Germanic Languages*
and Literatures.
 HILDA ROWENA BRONSON, *English, Greek Literature and History, Roman Lit-*
erature and History, Romance Languages and Literatures.
 MILDRED BROWNING, *Germanic Languages and Literatures, Romance Languages*
and Literatures.
 NORAH ELOISE DOWELL, *English.*
 CORNELIA FILL, *Mathematics, Art.*
 HAZEL MELLIE FOWLER, *English, Germanic Languages and Literatures, Ro-*
mance Languages and Literatures.
 MARION RAWSON LUTHER, *Mathematics, Physics.*
 OTTILIE ROSE METZGER, *Germanic Languages and Literatures.*
 ANNIE EVELYN OTTLEY, *Romance Languages and Literatures, History, Educa-*
tion.
 GLADYS PAINE, *Mathematics.*
 EVELYN BUTLER TILDEN, *Romance Languages and Literatures.*
 ELIZABETH WAVE WHITMAN, *English.*

DEGREES CONFERRED IN 1913

DEGREES IN COURSE

BACHELOR OF ARTS

Charles Harlan Abbott	Karl Henry Koopman
Preston Franklin Arnold	Daniel Harrison Kulp
Samuel Tomlinson Arnold	Alfred Bunyan Lemon
Howard Bates Baker	Albert Pray Martin
Earle Henry Blanchard	George Tucker Metcalf
George Boas	Harold Winthrop Munro
Joseph Knowles Burwell	Louis Israel Newman
James Russell Case	Herbert Farwell Osteeyee
John Casey, Jr.	Wyman Pendleton. <i>With the class of</i>
Porter Durant Collins	1912
Raymond Carpenter Colwell	Clarence Horace Philbrick
George Marsden Crowther	James Vincent Ricci. <i>With the class</i>
John Houston Cushman	<i>of</i> 1912
William Learned Dealey	Charles Herbert Ricker
Karl Dana Gardner	Richard Dodson Robinson
Harold Alden Grout	Herbert Duncan Rollason
Frederic Howland Guild	Walter Henry Snell
Benjamin Malcolm Harris	John Kent Starkweather
Leon Clifford High	Clifford John Stevens
Arthur Whitney Howe, Jr.	William Matthew Sullivan
Norman Bigelow Hull	Norman Stephen Taber
Abraham Samuel Isaacson	Earle Walley Tucker
Harry Muse Jones. <i>With the class of</i>	Charles Waterman Walker
1912	
Mary Elizabeth Barnicle	Edith Frances Coolidge
Jessie Helen Barr	Lillian Lucy Davenport
Helen Irene Barrett	Cornelia Fill
Marion Hortense Bayley	Marion Bristow Greene
Irene Mary Cecilia Belanger	Lucile Spencer Himes
Marilla Letitia Bogle	Alice Hubbard. <i>With the class of</i>
Aline Bourgeois	1912
Hilda Rowena Bronson	Theckla Jones
Anna Maria Browne	Mary Madeleine Kane
Mildred Browning	Alice Victoria Liske
Gladys Chidley Bushell	Barbara Littlefield
Mary Fifield Clarke	Marion Rawson Luther

Isabel McMurtry
 Otilie Rose Metzger
 Annie Evelyn Ottley
 Gladys Paine
 Winifred Augusta Palmer
 Bessie Gertrude Roche
 Ruth Elizabeth Ryther

Blanche Gertrude Snow
 Harriet Marguerite Stadtfeld
 Minnie White Taylor
 Evelyn Butler Tilden
 Myra Inman Washburn
 Elizabeth Wave Whitman

BACHELOR OF PHILOSOPHY

Russell Gilman Ashbaugh
 William Emerson Bailey
 John Raymond Bair
 Herbert Clarence Banks
 Frederick Eames Cooper
 Ralph Brinckerhoff Crum
 William Raymond Eastwood
 Russell Watts Field
 Walter Hibberd Garrett
 Jeffrey Solon Goldberg
 Matthew Edward Gormly, Jr. *With
 the class of 1912*
 Adrian Gordon Gould
 Kenneth Standish Hall
 James Eddy Harris
 George Nathan Hazard
 Arthur Henry Higgins
 William Dickson Lamond
 Ira Lloyd Letts
 Joseph Anthony McCaull
 Benjamin Murrie McLyman
 Andrew Hamilton McPhail
 Daniel Lawrence Mahoney
 Carleton Doty Morse

Edward Andrew Cushman Murphy
 Otto Carl Pahline
 Cecil Carlton Parker
 James Henry Readio, Jr.
 Horace Ray Redington
 William Joseph Reed
 Clarence Newton Reynolds, Jr.
 Kenneth Stillman Rice
 Thomas Howarth Roberts
 Ben Isaac Robinson
 Herbert Mortimer Ross
 Marshall Hingston Sheldon
 Reynolds Sweetland
 Louis Clifford Taylor, Jr.
 Lemuel Halsted Thompson
 Harold Clifton Tooker
 Payson Waite Tucker
 Edward Strawn Walton
 Elisha Carpenter Wattles
 Willis Carey Wilber
 Frederick Henry Wilke
 James Taylor Wilson
 Horace Whipple Woodberry, Jr.
 Maynard Earle Wright

Mildred Ethel Bosworth
 Rosalind Celestine Brooks
 Alletta Kreemer Chamberlain
 Vida Maud Dexter
 Nora Eloise Dowell

Hazel Mellie Fowler
 Helen Matilda Hastings
 Elva Marion Lake
 Mildred Louise Mott
 Hazel Marie Underwood

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Leighton Teeterick Bohl
 Richard Vance Coburn

Everett Thomas Cripps
 Clifford Aylward Hahn

Clifford Dean Hindle. <i>With the class of</i> 1912	Leroy Everett Loxley
Cedric Freeman Joslin	Ferdinando Votta. <i>With the class of</i> 1912
Duncan Langdon	Winter Arnold White

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Stanley Mirick Banfield	Jackson Cole Phillips
Ralph Everett Burnham	John Evans Rouse
Francis Perry Davis	Thomas Clark Shedd
Harold Faunce Dumbleton	Leonard Walter Smith
Edwin Gustav Hempel	John Tempest Walker, Jr.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Frank Carleton Blake	William Mason Howe
Henry Chamberlain Brown	Howard Fullerton Parker

MASTER OF ARTS

Harris Merrill Barbour, A.B., B.D.	John Leacher, A.B., B.D.
John Oliver Blanton, Jr., A.B.	Joseph Anthony McCaull
George Boas	Charles Everett McCoy, A.B.
Charles Carroll, A.B., LL.B.	Robert James Yorkston Meckel, A.B.
Emma Henrietta Dahlgren, A.B.	Jeannette Bell Moffitt, Ph.B.
Wayne Edward Davis, A.B.	Mildred Louise Mott
William Learned Dealey	Eugene Richard Musgrove, Sc.B.
Bhupendra Nath Dutt, A.B.	Walter Chadwick Nelson, Ph.B.
John Alfred Furrer, A.B.	Sabin Cabbage Percefull, A.B.
Clarence Frank Gifford, A.B.	Alice Manchester Potter, A.B.
Harold Alden Grout	Carl Tracy Rhoades, A.B.
Raymond Preston Hawes, A.B.	Jeannette Rinaldo, A.B.
Samuel Lee Haworth, Ph.B.	William Matthew Sullivan
Ralph Gibney Hurlin, A.B.	Ada Elizabeth Sweet, A.B.
Lowell Clapp Kendrick, Ph.B.	Herbert Edward Wolfe A.B.
Charles Franklin Kincaid, A.B.	Walter Allen Young, Ph.B.
Daniel Harrison Kulp	
Archibald Collins Ladner, A.B.	

MASTER OF SCIENCE

Arthur Francis Buddington, Ph.B.	Harold Everett Smiley, Ph.B.
Paul Hart Francis, Sc.B.	John Frederick Von der Leith, Ph.B.
Benjamin Samuel Levine, Sc.B.	

BROWN UNIVERSITY

DOCTOR OF PHILOSOPHY

Norman Edward Holt, A.B., Sc.M.

THESIS: "The Action of Acetic Anhydride on *s*-Tribromophenyl-propionic Acid."

DEGREES OUT OF COURSE

BACHELOR OF ARTS

Joseph Francis Russell. *With the class of 1902*

BACHELOR OF PHILOSOPHY

George Edgar Hathaway. *With the class of 1901*

HONORARY DEGREES

MASTER OF ARTS

WALTER BENJAMIN BRIGGS

GEORGE DUDLEY CHURCH

SOPHRONIA MARIA ELLIOT

DOCTOR OF DIVINITY

LOUIS CHILDS SANFORD

RICHARD MINER VAUGHAN

DOCTOR OF SCIENCE

FRANK MICHLER CHAPMAN

DOCTOR OF LETTERS

MOSES CLEMENT GILE

CHARLES McCARTHY

WILLIAM ROSCOE THAYER

DOCTOR OF LAWS

ALEXANDER MEIKLEJOHN

EDWARD DOUGLAS WHITE

LIST OF STUDENTS

GRADUATES

- Charles Harlan Abbott *Antrim, N. H.*
A.B. (*Brown University*) 1913. Biology, Chemistry. Enrolled candidate for A.M. Registered candidate for Ph.D.
- James Gelston Affleck, Jr. *Yonkers, N. Y.*
Political and Social Science, History. Enrolled candidate for A.M.
- Richard Day Allen *Edgewood*
A.B. (*Brown University*) 1910; A.M., 1912. Education, English. Registered candidate for Ph.D.
- Samuel Tomlinson Arnold *Corinna, Me.*
A.B. (*Brown University*) 1913. Chemistry, Physics. Enrolled candidate for A.M.
- Clarence Edwin Ayres *Westfield, Mass.*
A.B. (*Brown University*) 1912. Philosophy, Economics. Enrolled candidate for A.M.
- Helen Irene Barrett *Providence*
A.B. (*Brown University*) 1913. Education. Registered candidate for A.M.
- Laura Borden Batt *Fall River, Mass.*
A.B. (*Wellesley College*) 1913. Education. Registered candidate for A.M.
- Mela Elsie Bennett *Providence*
Ph.B. (*Brown University*) 1912. Education. Registered candidate for A.M.
- Frank Carleton Blake *Providence*
B.S. (*Brown University*) 1913. Mechanical Engineering.
- Marilla Letitia Bogle *Fall River, Mass.*
A.B. (*Brown University*) 1913. Education. Registered candidate for A.M.
- William Alva Brady *Narragansett Pier*
Ph.B. (*Brown University*) 1894; A.M. 1908. History, Education. Registered candidate for Ph.D.
- Marion Emmett Bratcher *Ekron, Ky.*
A.B. (*William Jewell College*) 1913. Biblical Literature, Social Science. Enrolled candidate for A.M.
- Anna Bryan *Franklin, Ind.*
Ph.B. (*Franklin College*) 1909. Philosophy, English, Political Science. Enrolled candidate for A.M.
- Walter Chester Cameron *Auburn*
A.B. (*Brown University*) 1910. Education. Registered candidate for A.M.
- Rhodie Lucelia Cargill *Valley Falls*
B.S. (*Rhode Island State College*) 1913. Education. Registered candidate for A.M.
- Alice Sheehan Carroll *Providence*
A.B. (*Brown University*) 1903. Education, English, French. Enrolled candidate for A.M.
- Charles Carroll *Providence*
A.B. (*Brown University*) 1898; LL.B. (*Harvard University*) 1901; A.M. (*Brown University*) 1913. Education, Social and Political Science, Economics. Enrolled candidate for Ph.D.
- Robert Gamble Caswell *Wakefield*
Ph.B. (*Brown University*) 1911; M.S. 1912. Chemistry, Physics. Enrolled candidate for Ph.D.
- Arthur William Cate *Providence*
Education. Biblical Literature, German. Enrolled candidate for A.M.

- Margaret Brooks Church *Providence*
A.B. (*Brown University*) 1912. Botany, Physics, Biology. Enrolled candidate for A.M.
- Millie Dimond Church *Bristol*
Ph.B. (*Brown University*) 1905. English, Education. Registered candidate for A.M.
- Benjamin Crocker Clough *Readville, Mass.*
A.B. (*Harvard University*) 1911. English.
- Raymond Carpenter Colwell *Johnston*
A.B. (*Brown University*) 1913. Biology, Chemistry. Enrolled candidate for A.M.
- Anne Marjorie Day *Providence*
A.B. (*Vassar College*) 1898. English. Registered candidate for A.M. and Ph.D.
- Walter William Deckard *Arlington*
B.S. (*Rio Grande College*) 1893; A.B., B.D. (*Hillsdale College*) 1899; A.M. (*Brown University*) 1905. Social and Political Science, Philosophy. Enrolled candidate for Ph.D.
- Norah Eloise Dowell *Providence*
Ph.B. (*Brown University*) 1913. Philosophy, Geology. Enrolled candidate for A.M.
- Marie Dubuque *Fall River, Mass.*
A.B. (*Wellesley College*) 1913. Education. Registered candidate for A.M.
- William Raymond Eastwood *Providence*
Ph.B. (*Brown University*) 1913. Biology, Chemistry. Enrolled candidate for A.M.
- Helen Emerson *Providence*
A.B. (*Bryn Mawr College*) 1911. Physics, Biology. Enrolled candidate for A.M.
- Herbert Elliott Foote *Pawtucket*
Chemistry. Enrolled candidate for A.M.
- Clarence Frank Gifford *Danielson, Ct.*
A.B. (*Brown University*) 1912; A.M. 1913. Philosophy, Economics, Social Science. Enrolled candidate for Ph.D.
- Lillian Moller Gilbreth *Providence*
B.L. (*University of California*) 1901; M.L. 1902. Education, Philosophy. Enrolled candidate for Ph.D.
- Charles Terrance Grover Graham *Fredericktown, Mo.*
A.B. (*William Jewell College*) 1909; A.M. (*Brown University*) 1910. Social and Political Science. Enrolled candidate for Ph.D.
- Marion Bristow Greene *Providence*
A.B. (*Brown University*) 1913. English, History, French. Registered candidate for A.M.
- Orie P. Gruelle *Dry Ridge, Ky.*
A.B. (*William Jewell College*) 1911. Social Science, History, Economics. Enrolled candidate for A.M.
- Frederic Howland Guild *Providence*
A.B. (*Brown University*) 1913. Political Science, History. Registered candidate for A.M.
- Ernest Russell Hager *Providence*
A.B. (*Brown University*) 1909; A.M. 1910. Education, Social Science. Registered candidate for Ph.D.
- Sven Gustaf Hagglund *Providence*
A.B. (*Augustana Theological Seminary*) 1900; B.D. 1904. Social Science. Registered candidate for A.M. and Ph.D.
- Alfred Cary Hawkins *Plainfield, N.J.*
B.S. (*Columbia University*) 1909; A.M. (*Princeton University*) 1912. Geology, Chemistry. Registered candidate for Ph.D.
- Alice Frances Hildreth *Providence*
Ph.B. (*Brown University*) 1911. Education. Registered candidate for A.M.

- Edward Lapham Hill *Wakefield, Mass.*
Ph.B. (*Brown University*) 1912. Education, Philosophy. Enrolled candidate for A.M.
- Carl Holman *Saylesville*
A.B. (*Bates College*) 1909. Education. Registered candidate for A.M.
- Nathaniel Orson Howard *Conimicut*
Ph.B. (*Brown University*) 1903. Chemistry. Registered candidate for M.S.
- Ralph Gibney Hurlin *Antrim, N. H.*
A.B. (*Brown University*) 1912; A.M. 1913. Biology. Registered candidate for Ph.D.
- Joshua Milton Jackson *Pasadena, Texas*
A.B. (*Baylor University*) 1913. Education, Political Science. Enrolled candidate for A.M.
- Edmund Talma Jillson *Providence*
A.B. (*Brown University*) 1907. Biblical Literature, Philosophy. Enrolled candidate for A.M.
- Edwin William Johnson *Pawtucket*
A.B. (*Bowdoin College*) 1909. Education. Registered candidate for A.M.
- Charles Edson Junkins *York Corner, Me.*
A.B. (*Bates College*) 1905; LL.B. 1908. History, Political Science, Philosophy. Enrolled candidate for A.M. Registered candidate for Ph.D.
- Mary Madeleine Kane *Pontiac*
A.B. (*Brown University*) 1913. History. Registered candidate for A.M.
- Bernard Aloysius Keenan *Pawtucket*
A.B., A.M. (*Brown University*) 1909. German, Romance. Enrolled candidate for Ph.D.
- Lowell Clapp Kendrick *Providence*
A.B. (*Brown University*) 1912; A.M. 1913. Biology, Botany, Physics. Enrolled candidate for M.S.
- Edith May Knowlton *Worcester, Mass.*
A.B. (*Mount Holyoke College*) 1911. German, French. Registered candidate for A.M.
- Karl Henry Koopman *Providence*
A.B. (*Brown University*) 1913. English. Registered candidate for A.M.
- Benjamin Towne Leland *Providence*
A.B. (*Harvard University*) 1906. Education. Registered candidate for A.M.
- Ira Lloyd Letts *Moravia, N. Y.*
Ph.B. (*Brown University*) 1913. Political Science, History. Enrolled candidate for A.M.
- Benjamin Samuel Levine *Rockville, Ct.*
B.S. (*Trinity College*) 1912; M.S. (*Brown University*) 1913. Biology, Chemistry. Registered candidate for Ph.D.
- Barbara Littlefield *Providence*
A.B. (*Brown University*) 1913. Botany. Registered candidate for A.M.
- John Joseph Long *Woonsocket*
Ph. B. (*Yale University*) 1907. Mechanics, Mechanical Engineering, Physics. Enrolled candidate for M.S.
- Harry Havelock Lowry *Providence*
A.B. (*Bates College*) 1912. Education, Political Science, History. Enrolled candidate for A.M.
- Marion Rawson Luther *Providence*
A.B. (*Brown University*) 1913. Education, French. Enrolled candidate for A.M.
- Harold William Lyall *Brooklyn, N. Y.*
A.B. (*Brown University*) 1908; A.M. 1909. Biology. Enrolled candidate for Ph.D.

- Andrew Hamilton MacPhail *North Adams, Mass.*
Ph.B. (*Brown University*) 1913. Education, Italian. Enrolled candidate for A.M.
- Daniel Lawrence Mahoney *Newton, Mass.*
Ph.B. (*Brown University*) 1913. Education, History. Enrolled candidate for A.M.
- Mary Catherine Mahy *Providence*
A.B. (*Brown University*) 1900; A.M. (*University of Nebraska*) 1901; A.M. (*Brown University*) 1905. History.
- Robert Tracy Marvell *Fall River, Mass.*
A.B. (*Wellesley College*) 1897. Geology. Registered candidate for A.M.
- Kenneth Oliver Mason *Pawtucket*
English. Enrolled candidate for A.M.
- Inez McCaffrey *Cambridge, Mass.*
A.B. (*Radcliffe College* 1913). Education. Registered candidate for A.M.
- Isabel McMurtry *Providence*
A.B. (*Brown University*) 1913. Education. Registered candidate for A.M.
- Nahum Morrill *Chicago, Ill.*
History, Political and Social Science. Enrolled candidate for A.M.
- Courtland Sawin Mudge *Providence*
Ph.B. (*Brown University*) 1911; A.M. 1912. Biology. Enrolled candidate for Ph.D.
- Walter Chadwick Nelson *Fall River, Mass.*
Ph.B. (*Brown University*) 1912; A.M. 1913. Biology. Registered candidate for Ph.D.
- Anne Evelyn Ottley *Wickford*
Ph.B. (*Brown University*) 1913. Education. Registered candidate for A.M.
- Robert Hardin Power *Yuma, Ariz.*
A.B. (*Baylor University*) 1913. Social Science, Economics, History, Education. Enrolled candidate for A.M.
- John H. Reilly *North Adams, Mass.*
A.B. (*Holy Cross College*) 1913. Education. Registered candidate for A.M.
- Arthur Leslie Reynolds *Wakefield*
B.S. (*Rhode Island State College*) 1913. Education. Registered candidate for A.M.
- Clarence Newton Reynolds, Jr. *Providence*
Ph.B. (*Brown University*) 1913. Mathematics, Physics. Enrolled candidate for A.M.
- Royal Paul Richardson *Dighton, Mass.*
A.B. (*Brown University*) 1911; A.M. 1912. Botany, Chemistry. Registered candidate for Ph.D.
- Thomas Howarth Roberts *Providence*
Ph.B. (*Brown University*) 1913. Chemistry, Physics, Mathematics. Enrolled candidate for M.S.
- George Henry Robinson *Lewiston, Me.*
A.B. (*Bates College*) 1911; A.M. (*Brown University*) 1912. Biology. Registered candidate for Ph.D.
- Sarah Gridley Ross *Cortland, N. Y.*
A.B. (*Brown University*) 1905. English, Biblical Literature. Registered candidate for A.M.
- Lester Angell Round *Clayville*
A.B. (*Brown University*) 1910; A.M. 1911. Biology. Enrolled candidate for Ph.D.
- Chester Roy Shaw *Pawtucket*
B.S. (*Massachusetts Institute of Technology*) 1905. Education. Registered candidate for A.M.

- Harold Everett Smiley *Providence*
Ph.B. (*Brown University*) 1912; M.S. 1913. Biology. Registered candidate for Ph.D.
- John Lebrac Smith *Auburn*
B.S. (*Rhode Island State College*) 1908. Education. Registered candidate for A.M.
- Walter Henry Snell *Brockton, Mass.*
A.B. (*Brown University*) 1913. Biology, Botany, Social Science. Registered candidate for A.M.
- Henry Jennison Blakely Stitt *Pawtucket*
Ph.B. (*Brown University*) 1912. Education. Registered candidate for A.M.
- Mary Clegg Suffa *Providence*
A.B. (*Brown University*) 1910. Mathematics, Physics. Enrolled candidate for A.M.
- Helen Louise Sullivan *Newport*
A.B. (*Wellesley College*) 1913. Education, English, History. Enrolled candidate for A.M.
- Albert Whitman Sweet *Providence*
Ph.B. (*Brown University*) 1911; A.M. 1912. Biology. Enrolled candidate for Ph.D.
- Mary Sweetland *Providence*
A.B. (*Brown University*) 1912. German. Registered candidate for A.M.
- Annie Williams Taylor *Providence*
A.B. (*Radcliffe College*) 1904. English, Romance. Registered candidate for A.M.
- Minnie White Taylor *Providence*
A.B. (*Brown University*) 1913. Botany. Registered candidate for A.M.
- Charles Franklin Towne *Providence*
A.B. (*Colby College*) 1900. Education, Political Science. Registered candidate for A.M.
- Margaret Frances Upton *Providence*
A.B. (*Smith College*) 1912. Biology. Enrolled candidate for A.M.
- John Frederick Von der Leith *Hoboken, N. J.*
Ph.B. (*Brown University*) 1912; M.S. 1913. Biology. Enrolled candidate for Ph.D.
- Charles Waterman Walker *Meshtanticut Park*
A.B. (*Brown University*) 1913. Education, Biblical Literature. Enrolled candidate for A.M.
- Amy Mildred Wentworth *Brockton, Mass.*
A.B. (*Mount Holyoke College*) 1912. Education, Philosophy. Registered candidate for A.M.
- George Franklin Weston, Jr. *East Dedham, Mass.*
Ph.B. (*Brown University*) 1909. Education, Philosophy. Enrolled candidate for A.M.
- Marion Dodge Weston *Georgetown, Mass.*
A.B. (*Mount Holyoke College*) 1906; A.M. 1909. Geology. Registered candidate for Ph.D.
- Clinton Burnette Wilbur *Somerset, Mass.*
A.B. (*Williams College*) 1906. Greek. Registered candidate for A.M.
- Alfred Howard Williamson *Providence*
Ph.B. (*Brown University*) 1912. History, English. Registered candidate for A.M.

BROWN UNIVERSITY
SENIORS: CLASS OF 1914

NAME	RESIDENCE
David Isaac Adelman	<i>Providence</i>
James Gelston Affleck, Jr.	<i>Yonkers, N. Y.</i>
Lester Johnson Ainsworth	<i>Attleboro, Mass.</i>
James Grant Anderson	<i>Andover, Mass.</i>
Charles Louis Bagnall	<i>North Attleboro, Mass.</i>
Arthur Elliot Bartlett	<i>Harwichport, Mass.</i>
Albert Edwin Beachen	<i>Pawtucket</i>
Stephen Sibley Bean	<i>Woburn, Mass.</i>
Charles Everett Blackway	<i>Fall River, Mass.</i>
Irving Thayer Boardman	<i>Providence</i>
Raymond Franklin Borden	<i>Newport</i>
Edward Tappan Brackett	<i>Brookline, Mass.</i>
Charles Edward Brady	<i>Providence</i>
Earl Kingsley Brown	<i>Whitinsville, Mass.</i>
Howard Adams Brown	<i>Brattleboro, Vt.</i>
Watson Frederick Buehler	<i>Newark, N. J.</i>
Elliot Towle Bugbee	<i>North Attleboro, Mass.</i>
Arthur William Cate	<i>Providence</i>
Hubert Hayward Champney	<i>Taunton, Mass.</i>
William Albert Chappell	<i>Ashaway</i>
Ernest Rexford Cleaveland	<i>Providence</i>
Austin Norcross Cook	<i>Providence</i>
Edwin Pulver Cook	<i>Moravia, N. Y.</i>
Joseph Edward Cook	<i>Uxbridge, Mass.</i>
James Lawrence Cummings	<i>Fall River, Mass.</i>
Harold Leavitt Cushing	<i>Seekonk, Mass.</i>
Clarence Adelbert Davis	<i>East Killingly, Ct.</i>
Earle Raymond Delano	<i>Newburyport, Mass.</i>
Peter Francis Dugan	<i>Newburyport, Mass.</i>
Eugene Ross Dukette	<i>Plattsburg, N. Y.</i>
Elisha Chester Durfee	<i>Arlington</i>
Arthur Dudley Durgin	<i>Hopedale, Mass.</i>
Frederick Willard Easton, Jr.	<i>Pawtucket</i>
Edward Irving Everett	<i>Franklin, Mass.</i>
Joseph Hollister Farnham	<i>Providence</i>
Abraham Feitelberg	<i>Fall River, Mass.</i>
Chester Arthur Files	<i>White Rock, Me.</i>
Herbert Elliott Foote	<i>Pawtucket</i>
Marion Kenneth Forward	<i>Greeley, Col.</i>
Silas William Foss	<i>Laconia, N. H.</i>
Alexander Andrew Gardiner	<i>Holyoke, Mass.</i>

SENIORS : CLASS OF 1914

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NAME	RESIDENCE
Victor Carl Gelb	<i>Providence</i>
James Vincent Giblin	<i>Fall River, Mass.</i>
Roderick Allen Gillis	<i>Pugwash, N. S.</i>
George Sidney Goodspeed	<i>Oak Lawn</i>
Earl Whittemore Harrington	<i>Providence</i>
Wallace Elmer Harris	<i>Providence</i>
Frederick Rowland Hazard, Jr.	<i>Syracuse, N. Y.</i>
David Edward Henry	<i>Dorchester, Mass.</i>
Gilbert Williams Hodges	<i>Foxboro, Mass.</i>
Arnold Smith Hoffman	<i>Barrington</i>
Robert Stowe Holding, Jr.	<i>Lewiston, Me.</i>
Edward Joseph Horrigan	<i>Providence</i>
Reber Nettleton Johnson	<i>Chicago, Ill.</i>
Thomas Leo Keily	<i>Providence</i>
Chester Lewis Knowles	<i>Narragansett Pier</i>
Allan Lincoln Langley	<i>Newport</i>
Jean Martial Legris	<i>Arctic</i>
Robert Mendon Lord	<i>Providence</i>
Fred Lynn Loucks	<i>Le Roy, N. Y.</i>
Ralph Baker Low	<i>Essex, Mass.</i>
Elmer George MacDowell	<i>Linwood, N. Y.</i>
Frank Edward McDuff	<i>Pawtucket</i>
James Joseph McGovern	<i>Providence</i>
Edward Aloysius McLaughlin	<i>Providence</i>
Benjamin Harrison Marshall	<i>Timewell, Ill.</i>
Kenneth Oliver Mason	<i>Pawtucket</i>
Melville Carlos Mason	<i>Rupert, Vt.</i>
Percy Davol Meader	<i>Providence</i>
Herbert Earl Morgan Medbery	<i>Providence</i>
Lawrence Carl Thompson Miller	<i>Martinsburg, W. Va.</i>
Robert Ewing Mitchell	<i>Providence</i>
William Anthony Moffett	<i>Schenectady, N. Y.</i>
Nahum Morrill	<i>Chicago, Ill.</i>
Halsey Reginald Nash	<i>South Weymouth, Mass.</i>
Joseph George Nathanson	<i>Central Falls</i>
Sylvanus Henry Hill Parsons	<i>Albany, N. Y.</i>
Stephen Jefferson Patten	<i>Brooklyn, N. Y.</i>
Howard Randolph Perrin	<i>Pawtucket</i>
Reginald Poland	<i>Providence</i>
Francis Whitfield Post	<i>Brockton, Mass.</i>
Raymond Abner Preston	<i>Danielson, Ct.</i>
Albert Weber Protheroe	<i>Port Chester, N. Y.</i>
Arthur Forest Ranger	<i>Providence</i>

NAME	RESIDENCE
Henry Philip Reynolds	<i>Uxbridge, Mass.</i>
Harold Alton Rice	<i>Leominster, Mass.</i>
James Everett Ricker	<i>Providence</i>
Morgan Witter Rogers	<i>Providence</i>
George Emil Ronne	<i>Providence</i>
Stanley James Rowland	<i>Shelburne Falls, Mass.</i>
Harry John Rubin	<i>Providence</i>
Leon Beckwith Savacool	<i>Manchester, N. H.</i>
Melvin Eugene Sawin	<i>Providence</i>
James Ira Shepard	<i>Providence</i>
Cyril Carpenter Smith	<i>Seekonk, Mass.</i>
Edson Kirk Smith	<i>Alliance, Ohio</i>
Henry Robert Smith	<i>Rutland, Mass.</i>
Raymond Leonard Smith	<i>Newark, N. J.</i>
John Lovell Sperry	<i>Oak Lawn</i>
Leroy Arnold Spooner	<i>Eden Park</i>
Harold Hardy Sprague	<i>Melrose, Mass.</i>
Walter Hoff Sprague	<i>Pottersville, Mass.</i>
Joseph Henry Stannard	<i>Providence</i>
William Francis Tewhill	<i>Florence, Mass.</i>
James Joseph Tyrrell	<i>Pawtucket</i>
Eli Morrill Viner	<i>Providence</i>
Cyril Horace Wakefield	<i>Providence</i>
Earl Hammond Walker	<i>Providence</i>
Ward Wetmore	<i>Essex, Mass.</i>
Norman Hale Whitehead	<i>Somerset, Mass.</i>
Francis Merrill Willett	<i>Brockton, Mass.</i>
Roger Williams	<i>Providence</i>
Maurice Augustus Wolf	<i>Rochester, N. Y.</i>
Norris Elwin Woodbury	<i>Nashua, N. H.</i>
Charles Lester Woolley	<i>Providence</i>
Sidney Waddington Wray	<i>Providence</i>
Ernest Elwood Yeaton	<i>Chelsea, Me.</i>

JUNIORS : CLASS OF 1915

John Blair Abbott	<i>St. Louis, Mo.</i>
Edgar Allen	<i>Edgewood</i>
Sewell Woodberry Allison	<i>Rehoboth, Mass.</i>
Carl Henry Angell	<i>Providence</i>
Alfred Wyatt Anthony	<i>Lewiston, Me.</i>
Charles Percy Babington	<i>Cranston</i>
Barney Wilcox Baker	<i>Hazard, Ky.</i>

NAME	RESIDENCE
Arthur Earl Barnard	<i>Providence</i>
Lindon Francis Barnett	<i>Walla Walla, Wash.</i>
Ismar Baruch	<i>New London, Ct.</i>
William Emmet Beehan	<i>Providence</i>
Ralph Leon Blanchard	<i>Pittsfield, Me.</i>
Harrison Bliss	<i>Providence</i>
George Fremont Bliven	<i>Providence</i>
Earl Allwood Bowen	<i>Providence</i>
Joseph Brown Bowen	<i>Pawtucket</i>
John Hanson Bower	<i>Methuen, Mass.</i>
Francis Chapin Breckenridge	<i>Providence</i>
Wilbur Tobias Breckenridge	<i>Providence</i>
Harry Danforth Brice	<i>Providence</i>
Oscar Anthony Brown	<i>West Kingston</i>
Sharon Osborn Brown	<i>Providence</i>
Ray Lawrence Burnell	<i>Westbrook, Me.</i>
Walter Russell Burnham	<i>Central Falls</i>
William Russell Burwell	<i>Providence</i>
Edward Raymond Campbell	<i>Putney, Vt.</i>
Leonard Brown Campbell	<i>Providence</i>
John Rudolph Carlson	<i>Roslindale, Mass.</i>
Theodore Chandler	<i>Auburndale, Mass.</i>
Wilfred Warren Chandler	<i>Somerville, Mass.</i>
Chen Chong Chen	<i>Shanghai, China</i>
Charles Myron Clegg	<i>Youngstown, Ohio</i>
Roland Edes Copeland	<i>Roxbury, Mass.</i>
Edward John Corcoran	<i>Newport</i>
Clarence Frederic Corp	<i>Providence</i>
Ralph Waldo Cram	<i>Melrose, Mass.</i>
Frank Bennett Crocker	<i>Le Roy, N. Y.</i>
William Clinton Crolius, Jr.	<i>Denver, Col.</i>
Cecil Merne Putnam Cross	<i>Providence</i>
Minot Jay Crowell	<i>Melrose, Mass.</i>
Shirley Everett Culver	<i>Attleboro, Mass.</i>
Charles Wesley Goddard Currier	<i>Newton, Mass.</i>
Paul Oliver Curtis	<i>Dorchester Centre, Mass.</i>
Frederick Davis	<i>Montclair, N. J.</i>
Harvey Gladding Denham	<i>South Attleboro, Mass.</i>
Henry Forrester Drake	<i>Brooklyn, N. Y.</i>
Norman Le Roy Duncan	<i>Woburn, Mass.</i>
MacDonald Edinger	<i>Kingston, N. Y.</i>
Wilmer Hughes Eicke	<i>Narragansett Pier</i>
Ernest Hartwell Emery	<i>North Kingstown</i>

NAME	RESIDENCE
Harry Elmer Emmons, Jr.	<i>Brunswick, Me.</i>
Carl De Witt Everingham	<i>Suncook, N. H.</i>
Eliot Harold Falk	<i>Meriden, Ct.</i>
Franklin Blaine Frost	<i>Tiverton</i>
Raymond Bissett Gallant	<i>Exeter, N. H.</i>
Wallace Lester Gallup	<i>Springfield, Mass.</i>
John Lindley Gammell	<i>Providence</i>
Wallace Allyn Gannon	<i>Newark, N. J.</i>
Aaron Elmer Gottshall	<i>Bluffton, Ohio</i>
Ralph Brown Graham	<i>Lynn, Mass.</i>
Frederick Hartwell Greene	<i>Newton Centre, Mass.</i>
Joseph Irving Greene	<i>Fishkill-on-Hudson, N. Y.</i>
Benjamin Harry Grossman	<i>Providence</i>
John Russell Haire	<i>Newport</i>
Lawrence Hall	<i>Providence</i>
Herman Nichols Harcourt	<i>Wappingers Falls, N. Y.</i>
Schuyler Victor Hayward	<i>Chicago, Ill.</i>
George Earl Hebner	<i>Le Roy, N. Y.</i>
Prescott William Hill	<i>Providence</i>
Edward Winslow Hincks	<i>Providence</i>
Dana Mortimer Hubbard	<i>Woburn, Mass.</i>
Morris Edwin Hultslander	<i>Walden, N. Y.</i>
Frederic Johnson Hunt	<i>East Providence</i>
Harley Clifford Hyde	<i>Cranston</i>
Harold Mitchell Jackson	<i>Brockton, Mass.</i>
John Leslie Jenney	<i>Pawtucket</i>
Roger Sturtevant Kellen	<i>Cohasset, Mass.</i>
John Edward Kelly	<i>Le Roy, N. Y.</i>
Paul Joseph Kingsley	<i>Providence</i>
Harold Clarence Kinne	<i>Pawtucket</i>
Clarence Joseph Lamb	<i>Pawtucket</i>
Howard Langley	<i>Newport</i>
George Henry Anthony La Roe	<i>Providence</i>
Herbert Austin Larrabee	<i>Peabody, Mass.</i>
Herbert James Lawson	<i>Clinton, Mass.</i>
Leslie Torrence Little	<i>Picture Rocks, Pa.</i>
William Fowler Littlejohn	<i>Barre, Vt.</i>
Earl Francis Luther	<i>East Providence</i>
Harvey Bullinger McCrone	<i>St. Johnsville, N. Y.</i>
Rowland Hazard McLaughlin	<i>Chicago, Ill.</i>
Richard Lambie McLean	<i>Boston, Mass.</i>
Colin Gordon McLeod	<i>Providence</i>
Fred William Miller	<i>Ivoryton, Ct.</i>

NAME

RESIDENCE

Joseph Miller	<i>Narragansett Pier</i>
Harold Cranston Miner	<i>East Greenwich</i>
Seth Kimball Mitchell	<i>Bradford, Mass.</i>
Harold Leslie Myers	<i>Morristown, N. J.</i>
William Arthur Needham	<i>Providence</i>
Hendrik Gabriel Nelson	<i>Providence</i>
Herbert Newell Nicholas	<i>Pawtucket</i>
John Henry Nolan	<i>Newport</i>
Warren Perham Norton	<i>Waymart, Pa.</i>
James Francis O'Donoghue	<i>Lowell, Mass.</i>
Benedict Max Olch	<i>Providence</i>
John Anthony Owen, Jr.	<i>Providence</i>
Lester Curtis Page	<i>Phenix</i>
George Thomas Paine	<i>Warwick</i>
Roy Leon Parker	<i>Providence</i>
John Albert Weld Pearce	<i>New Bedford, Mass.</i>
Charles Stuart Phelps	<i>Rockland, Mass.</i>
Roy Cleveland Phillips	<i>Norwich, Ct.</i>
Wilber John Phillips	<i>Youngstown, Ohio</i>
Charles Austin Piper	<i>Franklin, Me.</i>
Howard Lewis Quimby	<i>South Acton, Mass.</i>
Robert Emmet Quinn	<i>River Point</i>
Adams Thurber Rice	<i>Newton Centre, Mass.</i>
Richard Drury Rice	<i>Lynn, Mass.</i>
William Karl Rice	<i>Adams, N. Y.</i>
Frederick John Rogers	<i>Providence</i>
Samuel Greene Arnold Rogers	<i>West Chester, Pa.</i>
Philip Carl Scherer, Jr.	<i>Brooklyn, N. Y.</i>
William Paine Sheffield, Jr.	<i>Newport</i>
George Silverman	<i>Providence</i>
John Joseph Skolnick	<i>New York, N. Y.</i>
Edgar Jonathan Staff	<i>Brockton, Mass.</i>
Richard Boardman Stanley	<i>Plymouth, N. H.</i>
Milton Hammond Stansbury	<i>West Chester, Pa.</i>
Elliot Shippen Staples	<i>Burlington, Vt.</i>
Wallace Gear Stewart	<i>East Orange, N. J.</i>
Roland Lucius Stickney	<i>Manchester, N. H.</i>
Raymond Parkhurst Stickney	<i>Manchester, N. H.</i>
Sherman Merrill Strong	<i>Chicago, Ill.</i>
Edmund James Sullivan	<i>Providence</i>
William Francis Sullivan	<i>Lowell, Mass.</i>
Louis Morenci Sweeny	<i>Poughkeepsie, N. Y.</i>
Elias Charles Sydney	<i>Providence</i>

NAME	RESIDENCE
Harold Murdock Taylor	<i>Meshticut</i>
Carl Anthony Terry	<i>Fall River, Mass.</i>
Harold Winthrop Tucker	<i>Providence</i>
George Clark Valentine	<i>Ballston Spa, N. Y.</i>
Homer Emsley Van Derwerken	<i>Middle Granville, N. Y.</i>
Robert McDonald Sterling Walker	<i>Providence</i>
Edward Robert Walsh, Jr.	<i>Roslindale, Mass.</i>
George Willis Waterman	<i>Providence</i>
William Randall Waterman	<i>Providence</i>
Harold Earle Watson	<i>Cranston</i>
Byron Lillibridge West	<i>Edgewood</i>
Harold Leslie Wilson	<i>Youngstown, Ohio</i>
Russell Mills Wilson	<i>Providence</i>
Edward Harrison Winsor	<i>Providence</i>
Samuel Henry Workman	<i>Providence</i>

SOPHOMORES: CLASS OF 1916

Maurice Adelman	<i>Providence</i>
William Russell Affleck	<i>Yonkers, N. Y.</i>
Arvid Axel Alm	<i>Peabody, Mass.</i>
Harold Patterson Andrews	<i>Providence</i>
George Ralph Arnold	<i>Providence</i>
Lincoln Richards Arnold	<i>Providence</i>
Jesse Mitchell Bailey	<i>Southbury, Ct.</i>
Frederick Allan Ballou, Jr.	<i>Providence</i>
Richard Davis Banigan	<i>Providence</i>
Harold Chester Barney	<i>East Providence</i>
Louis Earl Bauer	<i>Linwood, N. Y.</i>
George Stacy Bearse	<i>Dorchester, Mass.</i>
Samuel Benjamin	<i>Providence</i>
Edward Warren Blue	<i>Newton, Mass.</i>
John Morton Booth	<i>Fall River, Mass.</i>
Elliot Harris Bosworth	<i>Chicopee Falls, Mass.</i>
Reginald Odiorne Brackett	<i>Brookline, Mass.</i>
Robert Elmer Briggs	<i>Norwich, Ct.</i>
John Roy Brokenshire	<i>Pawtucket</i>
Leon William Brower	<i>Providence</i>
Joseph Richard Brown	<i>Provincetown, Mass.</i>
Abraham Jacob Burt	<i>Providence</i>
Harry Hunter Burton	<i>New Bedford, Mass.</i>
Nathan Benedict Burton	<i>Woodbury, Ct.</i>
Howard Seibert Butterweck	<i>Allentown, Pa.</i>

NAME

RESIDENCE

Seward Trover Byam	<i>North Adams, Mass.</i>
George Joseph Aloysius Cairns	<i>Providence</i>
Louis William Capelli	<i>Providence</i>
John Joseph Cashman	<i>Providence</i>
William Curtis Chase	<i>Providence</i>
Sidney Clifford	<i>Providence</i>
Henry Leon Cohen	<i>Providence</i>
John Stuart Coleman	<i>Providence</i>
Albert Bullock Coop	<i>Providence</i>
Edmond Patrick Corcoran	<i>Rockville, Ct.</i>
Joseph Merritt Couse	<i>Asbury Park, N. J.</i>
Edward Ingersoll Cristy	<i>Providence</i>
George Burton Cumerford	<i>Providence</i>
Gerald Dwight Curtis	<i>Warwick Neck</i>
Samuel Reed Damon	<i>Lancaster, Mass.</i>
Robert John Daniels	<i>Riverside</i>
Elmer Freman Davenport	<i>Shelburne Falls, Mass.</i>
Herman Mantell Davis	<i>Providence</i>
Leonide Amide De Nommé	<i>Arctic</i>
William Heisel Dick	<i>New Bedford, Mass.</i>
Donald Dike	<i>Melrose, Mass.</i>
Harry Edward Dow	<i>Lawrence, Mass.</i>
Richard Dresser	<i>Providence</i>
John Bernard Dunn	<i>Providence</i>
Henry Dursin, Jr.	<i>Woonsocket</i>
Francis Michael Dwyer	<i>Providence</i>
George Arthur Eames	<i>London, England</i>
Harold Thomas Eaton	<i>Stonington, Ct.</i>
Edwin Eayrs	<i>Providence</i>
John Lamson Eddy	<i>Providence</i>
Claus Emanuel Ekstrom	<i>Providence</i>
Arthur Fairchild	<i>Newtown, Ct.</i>
Horace Janney Farlee	<i>Lambertville, N. J.</i>
Frank Alexander Farnham, 2d	<i>Providence</i>
Philip Aaron Feiner	<i>Providence</i>
Herman Feinstein	<i>Providence</i>
Willard Ware Ferguson	<i>Burlington, Vt.</i>
Frederick Lum Ferris	<i>East Orange, N. J.</i>
Charles Curtis Field	<i>Exeter, N. H.</i>
Henry Booth Flinn	<i>St. Albans, Vt.</i>
Theodore Richard Ford	<i>Morristown, N. J.</i>
Joseph Joaquim Fraga	<i>Providence</i>
John Henry Ghodey	<i>Providence</i>

NAME	RESIDENCE
Phillip Paddock Goodwill	<i>Bramwell, W. Va.</i>
William Augustus Graham	<i>Providence</i>
Harold Raymond Hall	<i>Hackettstown, N. J.</i>
Ernest Halliwell	<i>Fall River, Mass.</i>
Joseph Francis Halloran	<i>Fall River, Mass.</i>
Clifford Sherman Hathaway	<i>Peace Dale</i>
George Edward Chalmers Hayes	<i>Washington, D. C.</i>
Walter Sumner Hayward	<i>Rochester, N. Y.</i>
John Clark Hazlett	<i>Bloomington, Ill.</i>
Francis Carmody Healey	<i>Cuba, N. Y.</i>
Clifford Davenport Heathcote	<i>Providence</i>
Charles James Hill	<i>Syracuse, N. Y.</i>
Ployer Peter Hill	<i>Newburyport, Mass.</i>
Gustave Desiré Houtmann	<i>Manville</i>
Thomas Mayno Hull	<i>Providence</i>
William Henry Hurlin	<i>Antrim, N. H.</i>
Willis Hobron Jeffery	<i>Providence</i>
George Franklin Johnston	<i>Long Branch, N. J.</i>
Barclay Lincoln Jones	<i>South China, Me.</i>
Harley Joslin	<i>Media, Pa.</i>
Edward Lawrence Kehoe	<i>Naugatuck, Ct.</i>
Philip Sturtevant Kellen	<i>Cohasset, Mass.</i>
Thomas Bartholomae Keville	<i>Providence</i>
Joseph Aubrey Landschoof	<i>Dunkirk, N. Y.</i>
Newton Peckham Leonard	<i>Providence</i>
Vincent Washburn Leonard	<i>Fairhaven, Mass.</i>
Charles Alick Levin	<i>Norwich, Ct.</i>
Herbert Royal Lindblom	<i>Providence</i>
Harold Spencer Litchfield	<i>Auburn</i>
Harold Irving Long	<i>Sharon, Mass.</i>
Myer Joseph Lozovitsky	<i>Providence</i>
Burton Loren Lucas	<i>Rumford</i>
Paul Crouse Lyall	<i>Lawrence, Mass.</i>
Stanley Howard Lyons	<i>Providence</i>
William Rhodes LeRoy McBee	<i>Providence</i>
James Joseph McGinn	<i>Providence</i>
Charles Berger MacKay	<i>Providence</i>
Hugh Stanford McLeod	<i>Providence</i>
Steward Tilton MacNeill	<i>West Newton, Mass.</i>
Roger Laurence Marble	<i>Brockton, Mass.</i>
Ernest Tremont Mattison	<i>Edgewood</i>
Allen Guy Maxwell	<i>Slatington, Pa.</i>
Albert Edward Mayoh	<i>Pawtucket</i>

NAME

RESIDENCE

Harold Madison Messer	<i>Newbury, N. H.</i>
Paul Barney Metcalf	<i>Wickford</i>
Herman Michelson	<i>New York, N. Y.</i>
Paul Peter Miller	<i>Sterling, Ct.</i>
John Wesley Moore	<i>Fall River, Mass.</i>
Henry Avery Morgan	<i>Niagara Falls, N. Y.</i>
Daniel Lee Morrissey	<i>Bristol</i>
Wilfred Murch	<i>Providence</i>
Joseph Donald Murphy	<i>Friendship, N. Y.</i>
David Wilson Neill	<i>Bernardsville, N. J.</i>
Francis Joseph O'Brien	<i>Providence</i>
Richard James O'Brien	<i>Springfield, Mass.</i>
William Nicholas Ormsby	<i>Dorchester, Mass.</i>
Henry Bacheller Osborn	<i>Peabody, Mass.</i>
Milton Coburn Paige	<i>Dorchester, Mass.</i>
Frank Eugene Paine, Jr.	<i>Warwick</i>
John Pitkins Palmer	<i>Stockbridge, Mass.</i>
Everett Granville Perkins	<i>Newburyport, Mass.</i>
Clayton Leroy Phillips	<i>New Haven, Ct.</i>
Ralph Williams Pratt	<i>Newton Centre, Mass.</i>
Russell Billings Quimby	<i>South Acton, Mass.</i>
Vernon Rice	<i>Williamsport, Pa.</i>
Wayland Wilbur Rice	<i>Providence</i>
John Joseph Riley	<i>New Bedford, Mass.</i>
Francis Willard Rollins	<i>Barnard, Vt.</i>
Jacob Rosenberg	<i>Fall River, Mass.</i>
Le Roy Sumner Rowley	<i>Middletown, N. Y.</i>
Paul Lewis Russell	<i>White Plains, N. Y.</i>
Carlo Canio Russo	<i>San Fele, Italy</i>
John Alexander Ryrie	<i>Alton, Ill.</i>
Earl Duckworth Sanford	<i>Providence</i>
Percy Waterman Sarle	<i>Providence</i>
Wilbour Eddy Saunders	<i>Providence</i>
Pierre Paul Saunier	<i>Worcester, Mass.</i>
Harold George Saxton	<i>Brockton, Mass.</i>
Earle Winslow Schoonmaker	<i>Newark, N. J.</i>
Harold Duel Scott	<i>Granville, N. Y.</i>
Abraham Shoul	<i>Newburyport, Mass.</i>
Abraham William Sidkowsky	<i>Providence</i>
Paul Foster Sinclair	<i>Johnson, Vt.</i>
James Edward Skane	<i>Providence</i>
Edward Rowland Smith	<i>Providence</i>
Franklin Chapman Smith	<i>Westerly</i>

NAME	RESIDENCE
Frederick Lee Smith, Jr.	<i>Providence</i>
Frank Russell Smith	<i>Norwich, Ct.</i>
Wilbur John Snyder	<i>Buzzards Bay, Mass.</i>
Frank Elmer Starrett	<i>Athol, Mass.</i>
David Steel	<i>Auburn</i>
Joseph Laycock Strickland	<i>Lawrence, Mass.</i>
William Francis Sullivan	<i>Wellesley Hills, Mass.</i>
Paul Nichols Swaffield	<i>Lawrence, Mass.</i>
Harry Weeden Underwood	<i>Narragansett Pier</i>
Peter Vasilieff	<i>Ekatavinosleff, Russia</i>
Guy William Wells	<i>Montrose, Pa.</i>
John Frederick Wendt	<i>Providence</i>
George Morrill White	<i>Providence</i>
Irving Clough White	<i>Lynn, Mass.</i>
Amasa Fitch Williston	<i>Tiverton</i>
Edward Talpey Willson, Jr.	<i>Farmington, N. H.</i>
William Richard Wirtner	<i>Dunkirk, N. Y.</i>
Henry Parker Witte	<i>Morristown, N. J.</i>
Earl Franklin Wood	<i>Danielson, Ct.</i>
George Henry Wood	<i>Pawtucket</i>
Stuart Edsall Yeakel	<i>East Orange, N. J.</i>
William Levett Yeaton	<i>Hoboken, N. J.</i>

FRESHMEN: CLASS OF 1917

Abraham Lincoln Abel	<i>Lawrence, Mass.</i>
Roger Upham Allard	<i>Providence</i>
Thomas Baird Appleget	<i>New York, N. Y.</i>
Ralph Avery Armstrong	<i>Franklin, Ct.</i>
Kenneth Nelson Atwater	<i>Newark, N. J.</i>
Joel Mead Austin	<i>Cairo, N. Y.</i>
Walter Bahnsen	<i>Washington, D. C.</i>
Hugh Bain	<i>Providence</i>
Alfred Withington Baker	<i>Allston, Mass.</i>
Eugene LeRoy Bamforth	<i>Somerville, N. J.</i>
Nelson Barlow	<i>Pawtucket</i>
Elmer Ellsworth Barnes	<i>Providence</i>
Henry Augustus Batchelor	<i>Detroit, Mich.</i>
Alexander Peck Bates	<i>West Greenwich Centre</i>
Edgar Otis Benson	<i>Auburn</i>
Edgar Potter Black	<i>West Barrington</i>
Raymond Clarke Blanchard	<i>Providence</i>
Peter Blassberg	<i>Turner's Falls, Mass.</i>

NAME	RESIDENCE
Frederick Holdrege Bontecou	<i>Kansas City, Mo.</i>
Arthur Edward Breckenridge	<i>Providence</i>
Bancroft Huntington Brown	<i>Hyde Park, Mass.</i>
Edwin Leslie Brown	<i>Media, Pa.</i>
Herbert Alan Brown	<i>Providence</i>
John Francis Brown	<i>Providence</i>
John Russell Brown	<i>Morgan Park, Ill.</i>
Malcolm Wright Burnham	<i>Hopedale, Mass.</i>
Harold Abbott Butler	<i>Mansfield, Mass.</i>
Ward Elsmere Butler	<i>Providence</i>
Angelo Anthony Caldarone	<i>Providence</i>
Frank Caesar Cambio	<i>Providence</i>
Anthony Caputi	<i>Providence</i>
Gilbert Congdon Carpenter, Jr.	<i>Providence</i>
Harold Adair Carpenter	<i>Easton, Pa.</i>
Richard Burton Carter	<i>Richmond Hill, N. Y.</i>
Paul Cartwright	<i>Wakefield, Mass.</i>
Edward Robert Casey	<i>Brockton, Mass.</i>
Perry Moreland Chadwick	<i>Tuscola, Ill.</i>
Wallace Rhodes Chandler, Jr.	<i>Providence</i>
William Thomas Manning Cleare	<i>Fall River, Mass.</i>
Leon Eugene Close	<i>Moravia, N. Y.</i>
Frederick Willis Conover	<i>Point Pleasant, N. J.</i>
Walter Austin Cooper	<i>Attleboro, Mass.</i>
George Copeland	<i>New London, Ct.</i>
Howard David Corkum	<i>Leominster, Mass.</i>
Bertrand Munroe Cromack, Jr.	<i>Colrain, Mass.</i>
Robert Emmett Crotty	<i>Providence</i>
Frank Westcott Davis	<i>Williamsport, Pa.</i>
Carleton Herbert Day	<i>Waltham, Mass.</i>
Ralph Tillinghast Denison	<i>Moosup, Ct.</i>
Arthur John De Nommé	<i>Arctic</i>
Asahel Stultz Dillon	<i>Youngstown, Ohio</i>
Theophilus Dimmick	<i>Staatsberg, N. Y.</i>
Lorimer Harold Dixon	<i>Danielson, Ct.</i>
David Eisenberg	<i>Pawtucket</i>
John Thomas Anderson Ely	<i>Madison, Wis.</i>
Mark Farnum	<i>Georgiaville</i>
David Barney Feinberg	<i>Lake Placid, N. Y.</i>
James Gordon Fernald	<i>Upper Montclair, N. J.</i>
Arthur Barden Finch	<i>Providence</i>
Norman Lincoln Fishel	<i>Roxbury, Mass.</i>
Harold Fitts	<i>Moravia, N. Y.</i>

NAME	RESIDENCE
Kenneth Ainsworth Flanders	<i>Providence</i>
Albert Henry Flint, Jr.	<i>Bristol</i>
Irving Scott Fraser	<i>Providence</i>
Walter Gordon Frauenheim	<i>Pittsburgh, Pa.</i>
Joseph Otis Fuller	<i>Providence</i>
Oliver Addison Fuller	<i>Providence</i>
David Thayer Gallison	<i>Franklin, Mass.</i>
Lory Talman Gardner, 2d	<i>Providence</i>
Rodolphe Gladue	<i>Woonsocket</i>
Thomas Milton Goodall	<i>Brookline, Mass.</i>
William John Grace	<i>Bernardsville, N. J.</i>
Stephen Albert Greene	<i>Edgewood</i>
Joseph Daniel Haggerty	<i>Poughkeepsie, N. Y.</i>
Henry Theodore Hagstrom	<i>Youngstown, Ohio</i>
John Robert Wheaton Hall	<i>Warren</i>
Robert Warren Hamilton	<i>Providence</i>
William Harshowitz	<i>New London, Ct.</i>
Orville Byron Hayward	<i>Chicago, Ill.</i>
Clarence De Wolf Herreshoff	<i>Bristol</i>
Charles Bartlett Higgins	<i>Exeter, N. H.</i>
Calvert Holt	<i>New York, N. Y.</i>
Maurice Whitcomb Holton	<i>Manchester, N. H.</i>
Arthur Bartlett Homer	<i>Providence</i>
Waldo Perkins Houchin	<i>Rahway, N. J.</i>
William Stanley Howard	<i>Providence</i>
Harry Arden Hughes	<i>Providence</i>
Rowland Roberts Hughes	<i>West Long Branch, N. J.</i>
William Newton Hughes	<i>Manton</i>
Oliver Weekes Ingersoll, Jr.	<i>Brooklyn, N. Y.</i>
Leroy Irons	<i>Lakewood, N. J.</i>
Wendell Everett James	<i>Providence</i>
Bruce Monat Jeffris	<i>Janesville, Wis.</i>
Raymond Earl Jordan	<i>Pawtucket</i>
Charles Bird Keach	<i>Providence</i>
Solon Chester Kelley, Jr.	<i>Stamford, Ct.</i>
Henry Savage Kenyon	<i>Oswego, N. Y.</i>
Paul Homer Keough	<i>New York, N. Y.</i>
Francis Andrew King	<i>Lynn, Mass.</i>
Edwin Munroe Knights	<i>Riverside</i>
Chauncey Bemis Ladd	<i>St. Louis, Mo.</i>
Wilfred Joseph La Pierre	<i>Griswoldville, Mass.</i>
James William Leighton	<i>Phenix</i>
Henry David Levine	<i>Waterford, Ct.</i>

NAME	RESIDENCE
Robert Gustav Daniel Ljunggren	<i>New York, N. Y.</i>
Melville Morris Lowe	<i>Essex, Mass.</i>
Eliot Horton Luther	<i>Providence</i>
Theophilus Persse McClory	<i>Riverside, Ill.</i>
Donald Evans McIntire	<i>Somerville, Mass.</i>
Hugh Wilson MacNair	<i>Houghton, Mich.</i>
John Thomas McQuaid	<i>Pawtucket</i>
John Henry Maginn	<i>Providence</i>
Joseph Edward Maguire	<i>Providence</i>
Howard Bennett Marble	<i>Plainville, Mass.</i>
Bernard Harry Miller	<i>Providence</i>
Eric Albert Monroe	<i>Bristol, Ct.</i>
Samuel Morein	<i>Providence</i>
James Patrick Murphy	<i>New Bedford, Mass.</i>
Elbridge Johnson Newhall	<i>Lynn, Mass.</i>
Albert Reginald Nichols	<i>Auburn</i>
George Arnold Northup, Jr.	<i>Peace Dale</i>
Isaac Yale Olch	<i>Providence</i>
John Joseph O'Neill	<i>Killingly, Ct.</i>
Alfred Alan Overbagh	<i>Evanston, Ill.</i>
Robert Clyde Padley	<i>Providence</i>
Reginald March Pease	<i>Providence</i>
Charles Peckerman	<i>Providence</i>
Leslie Lovell Perry	<i>Providence</i>
John George Peterson	<i>Providence</i>
Harold Leighton Porter	<i>Haverhill, Mass.</i>
James Stephen Powers	<i>Providence</i>
Myron Stephen Powers	<i>Springfield, Mass.</i>
Lester Ware Preston	<i>Providence</i>
Howard Hepson Quinham	<i>Lonsdale</i>
William Harris Reese	<i>Parsons, Pa.</i>
Gerald Reynar	<i>Boonton, N. J.</i>
John Greene Rice	<i>Pawtucket</i>
Hartley Forest Roberts	<i>Mexico, Me.</i>
Henry Carlton Robertson	<i>Lakewood, N. J.</i>
Ralph Lester Robinson	<i>Providence</i>
Emery Roller	<i>Seligman, Mo.</i>
Harold William Ryley	<i>New London, Ct.</i>
Nelson Benson Sackett	<i>Providence</i>
Rodney Hobbs Scott	<i>Uxbridge, Mass.</i>
Harvey Sheahan	<i>Wickford</i>
Raymond Wilmot Sheldon	<i>South Woodstock, Ct.</i>
Edmund Lawrence Sheridan	<i>Providence</i>

NAME	RESIDENCE
Philip Raymond Sisson	<i>Providence</i>
Irving Gordon Smith	<i>Leominster, Mass.</i>
Daniel Parkhurst Spalding	<i>Providence</i>
Richard Hobart Spear	<i>Burlington, Vt.</i>
Walter Kenneth Sprague	<i>North East, Pa.</i>
James Cunningham Springer	<i>Providence</i>
Robert Taft Staples	<i>Burlington, Vt.</i>
John Storer, Jr.	<i>Providence</i>
Joseph Woodbury Strout, Jr.	<i>Rehoboth, Mass.</i>
Henry Eldridge Sweet	<i>Providence</i>
Egbert Foster Tetley	<i>North Chelmsford, Mass.</i>
Martin Thomas Tevlin	<i>Brockton, Mass.</i>
Elliott Ladd Thurston	<i>Providence</i>
Herbert Tuttle Tinker	<i>Nashua, N. H.</i>
Gustav Henry Tobelman	<i>Newark, N. J.</i>
Daniel Sawin Tolman	<i>Brockton, Mass.</i>
Russell Lyman Tomlinson	<i>Providence</i>
David Newell Torrance	<i>Derby, Ct.</i>
William Percy Trask	<i>Peabody, Mass.</i>
Girard Blakesley Troland	<i>New London, Ct.</i>
Frank Tuckerman	<i>Media, Pa.</i>
Richard Henry Van Horn	<i>Lambertville, N. J.</i>
Bissel La Monte Wade	<i>Leroy, N. Y.</i>
Wallace Wade	<i>Trenton, Tenn.</i>
Irving Russell Walker	<i>Athol, Mass.</i>
Raymond Walsh	<i>Providence</i>
Raymond Belcher Ward	<i>Newark, N. J.</i>
Albert Estes Watjen	<i>Warren</i>
Herman William Watjen, Jr.	<i>Warren</i>
Robert McKay Watson	<i>Pawtucket</i>
William Leroy Wedemeyer	<i>Lakewood, N. J.</i>
Foster Beal Whitehead	<i>Palmyra, N. Y.</i>
Jaspar Wight	<i>Lakewood, N. J.</i>
Rouse Babcock Wilcox	<i>Stonington, Ct.</i>
Frank Valentine Willard	<i>Chicago, Ill.</i>
Edward Thomas Williams	<i>New York, N. Y.</i>
Harding De Cautillon Williams	<i>Daytona, Fla.</i>
Howard Dwight Williams	<i>Rockland, Mass.</i>
John Roles Williams	<i>Baltimore, Md.</i>
Roger Williams	<i>Central Falls</i>
Walter Locke Williams	<i>White Plains, N. Y.</i>
George Albro Williamson	<i>Newark, N. J.</i>
Luke Augustus Woodbury	<i>Nashua, N. H.</i>

SPECIAL STUDENTS

207

NAME

RESIDENCE

Clarence Henry Woodmansee
Benjamin Horace Yerxa
Stanley Logan Yonce

Providence
New London, N. H.
Janesville, Wis.

SPECIAL STUDENTS

Cyrus Gates Allen
Fu Sun Bien
Stanley Pearce Bradish
Ray Baxter Brown
Henry Dewees Cady
Charles Albert Cederberg
William Rose Champlin
Ralph Aldrich Christie
Joseph Borus Thornley Coop
George Wiseman Dale
Romeo Etienne David
Ralph Di Leone
William Barbour Farnsworth
Shiang-fuan Fay
Russell Elliott Goff
Irving Turgle Gumb
Samuel Paris Harris
Ephrem Adelard Hudon
William Oded Kierstead
Nathan Gardner Kingsley
Henry Blaine Kulp
James Aloysius Leddy
Roger Leonard McCarthy
Raymond C. McKay
Edward Sidney Marks
Isaac Dwight Miner
Henry Claremont Moses
Winthrop Peabody
Earle Moore Pearce
William Poland
George Emil Quinter
Paul Curtis Richards
Louis Frederic Robbins
John Samuel Roney
Walter Ewan Rowland
Warren Mayhew Sniffin
Leslie Edmund Stone

Denver, Col.
Shanghai, China
Apponaug
Providence
Warren
Pawtucket
Providence
Providence
Providence
Providence
Fall River, Mass.
Providence
Providence
Tientsin, China
Providence
Lowell, Mass.
Providence
Providence
Auburn
Providence
Pottstown, Pa.
Providence
Providence
Youngstown, Ohio
Arlington, N. J.
East Greenwich
Sumter, S. C.
Providence
Providence
Providence
Washington, D. C.
Goffstown, N. H.
Ballston Spa, N. Y.
Middletown, Ohio
Youngstown, Ohio
Pittsburgh, Pa.
Providence

NAME	RESIDENCE
Giovanni de Tiberis	<i>Providence</i>
William Martin Tilton	<i>Dalton, Mass.</i>
Bertrand Evarist Tremblay	<i>Manchester, N. H.</i>
Arthur Henry Wilkinson, Jr.	<i>New London, Ct.</i>

THE WOMEN'S COLLEGE
IN BROWN UNIVERSITY

· · ·
OFFICERS OF ADMINISTRATION AND
INSTRUCTION

WILLIAM HERBERT PERRY FAUNCE, D.D., LL.D., PRESIDENT

Professor of Moral and Intellectual Philosophy

LIDA SHAW KING, A.M., LITT.D., LL.D. DEAN OF THE WOMEN'S COLLEGE

Professor of Classical Literature and Archaeology

EMMA BRADFORD STANTON, A.M., REGISTRAR OF THE WOMEN'S COL-
LEGE

· · ·

JOHN HOWARD APPLETON, A.M., Sc.D.

Newport-Rogers Professor of Chemistry

WILLIAM CAREY POLAND, A.M., LITT.D.

Professor of the History of Art; Director of the Museum of Fine Arts

NATHANIEL FRENCH DAVIS, A.M., LL.D.

Professor of Pure Mathematics

WINSLOW UPTON, A.M., Sc.D.

Professor of Astronomy; Director of the Ladd Observatory

ALBERT GRANGER HARKNESS, A.M., LITT.D.

Professor of Roman Literature and History

HENRY BRAYTON GARDNER, Ph.D.

Professor of Economics

COURTNEY LANGDON, A.B.

Professor of the Romance Languages and Literatures

EDMUND BURKE DELABARRE, Ph.D.

Professor of Psychology

JAMES IRVING MANATT, Ph.D., LL.D.

Professor of Greek Literature and History

WALTER COCHRANE BRONSON, A.M., LITT.D.

Professor of English Literature

WALTER GOODNOW EVERETT, Ph.D.

Professor of Philosophy and Natural Theology

ASA CLINTON CROWELL, Ph.D.

Associate Professor of the Germanic Languages and Literatures

CARL BARUS, PH.D., LL.D.

Dean of the Graduate Department; Hazard Professor of Physics

FRANCIS GREENLEAF ALLINSON, PH.D.

David Benedict Professor of Classical Philology

HENRY PARKER MANNING, PH.D.

Associate Professor of Pure Mathematics

JAMES QUAYLE DEALEY, PH.D.

Professor of Social and Political Science

WALTER BALLOU JACOBS, A.M.

Professor of Education

ALBERT DAVIS MEAD, PH.D., Sc.D.

Professor of Biology

ALBERT KNIGHT POTTER, A.M.

Associate Professor of the English Language

ALBERT BUSHNELL JOHNSON, A.M.

Associate Professor of the Romance Languages

JOHN FRANCIS GREENE, A.M.

Associate Professor of Roman Literature and History

WILLIAM MACDONALD, PH.D., LL.D.

George L. Littlefield Professor of American History

JOHN EMERY BUCHER, PH.D.

Associate Professor of Organic Chemistry

HENRY THATCHER FOWLER, PH.D.

Professor of Biblical Literature and History

LINDSAY TODD DAMON, A.B.

Professor of English Literature and Rhetoric

GEORGE WYLLYS BENEDICT, PH.D.

Associate Professor of English

THOMAS CROSBY, A.M.

Associate Professor of English and Public Speaking

HENRY BARRETT HUNTINGTON, A.B.

Associate Professor of English

CAMILLO VON KLENZE, PH.D.

Professor of the Germanic Languages and Literatures

CHARLES WILSON BROWN, A.M.

Associate Professor of Geology

HERBERT EUGENE WALTER, PH.D.

Associate Professor of Biology

ROLAND GEORGE DWIGHT RICHARDSON, PH.D.

Associate Professor of Pure Mathematics

JAMES MARVIN MOTLEY, PH.D.

Associate Professor of Economics

CHARLES HERMAN HUNKINS, DR. UNIV. PARIS

Assistant Professor of the Romance Languages and Literatures

RAYMOND CLARE ARCHIBALD, PH.D.

Assistant Professor of Pure Mathematics

THEODORE FRELINGHUYSEN COLLIER, PH.D.

Associate Professor of European History

HARLAN HARVEY YORK, PH.D.

Assistant Professor of Botany

WILLIAM THOMSON HASTINGS, A.M.

Assistant Professor of English

STEPHEN SHELDON COLVIN, PH.D.

Professor of Educational Psychology

ALFRED HARRISON JONES, PH.D.

Assistant Professor of Logic

LUCIUS MOODY BRISTOL, PH.D.

Assistant Professor of Sociology

HAMILTON CRAWFORD MACDOUGALL, MUS.D.

Lecturer in Music

ROBERT MCBURNEY MITCHELL, A.B.

Instructor in German

NORMAN EDWARD HOLT, Sc.M., PH.D.

Instructor in Chemistry

BERNARD ALOYSIUS KEENAN, A.M.

Instructor in German and French

ALBERT EDWARD RAND, PH.D.

Instructor in German

HENRI FERDINAND MICOLEAU

Instructor in French

JOHN HENRY WILLIAMS, A.B.

Instructor in English

FLORENCE HARRIS DANIELSON, A.M.

Instructor in Physiology and Household Economics in the Women's College

FRANK THURSTON HALLETT, A.M.

Instructor in Greek

KARL HENRY KOOPMAN, A.B.

Assistant in English

CLARENCE EDWIN AYRES, A.B.

Assistant in Philosophy

M. ELIZABETH BATES

Instructor in Hygiene and Physical Education in the Women's College

SARAH GRIDLEY ROSS, A.B.

Hall Mistress, Miller Hall

BLANCHE NATALIE DAVIS

Director of Chapel Music

COMMITTEE ON THE CURRICULUM

Professors POLAND, DAVIS, GARDNER, LANGDON, BRONSON, EVERETT, ALLINSON,
MEAD, and MACDONALD, *Dean* KING.

EXECUTIVE COMMITTEE

President FAUNCE, *Dean* KING, ROBERT HALE IVES GODDARD, *Rev.* HENRY
MELVILLE KING, STEPHEN OLNEY METCALF.

ADVISORY COUNCIL

Miss SARAH E. DOYLE, *Miss* AMELIA S. KNIGHT, *Mrs.* GUSTAV RADEKE, *Mrs.*
CARL BARUS, *Mrs.* FRANCIS G. ALLINSON, *Miss* MARTHA W. WATT, *Mrs.*
WILLIAM T. HASTINGS.

COURSES OF INSTRUCTION

C*COURSES designated by a † are given at the University; women are admitted to them on the recommendation of the Dean of the Women's College. Women are also admitted to certain other University courses not announced here, with the special permission of the department and with the consent of the Dean of the Women's College. In courses designated by a * a final mark covering the work of the course as a whole is given at the end of the course, the mark given at the end of the first semester being regarded as temporary.*

With the exception of Biology 1, 2, Greek Literature and History 20, and Roman Literature and History 3, courses offered to women are identical with corresponding courses offered to men. Detailed information may be found on pages 70-139. The officers of instruction are those conducting courses for men also, with the addition of:

LIDA SHAW KING, A.M., *Professor of Classical Literature and Archaeology*

FLORENCE HARRIS DANIELSON, A.M., *Instructor in Biology*

ART

[1, 2. *History of Art from Antiquity through the Renaissance*]
Not offered in 1913-14.

3, 4. *Modern Art, and Theory and Criticism of the Fine Arts*
Professor POLAND.
Tu., Wed., Sat., at 9.25.

15,* 16.* *Freehand Drawing*
Given at the Rhode Island School of Design. Hours to be arranged with the Director.

17,* 18.* *Advanced Drawing and Color Work*
Given at the Rhode Island School of Design. *Mon., Tu., Wed., at 2.*

ASTRONOMY

1, 2. *General Course*

Professor UPTON.

*Wed., Fri., Sat., at 11.25.*7, 8.† *Advanced Astronomy*

BIBLICAL LITERATURE AND HISTORY

1, 2.† *Elementary Hebrew*11, 12.† *Gospels and Epistles*[13, 14.† *Acts and Pauline Epistles*]

Not offered in 1913-14.

[15, 16. *Old Testament Literature and History*]

Not offered in 1913-14.

[17, 18. *New Testament Literature and History*]

Not offered in 1913-14.

19, 20. *The English Bible as Literature*

Professor FOWLER.

*Tu., Wed., Sat., at 9.25.*21, 22.*† *Biblical Seminary*

BIOLOGY

1, 2. *General Biology*

Miss DANIELSON.

*Wed., Fri., Sat., at 11.25.*3, 4. *Comparative Anatomy of Vertebrates*

Professor WALTER.

*Tu., Fri., Sat., at 10.25.*5, 6.† *Anatomy of the Nervous System*7, 8.† *Embryology and Histology*

9, 10.† *Advanced Histology and Pathology*

11, 12.† *General Physiology*

13, 14.† *Chemical Physiology*

16.† *Bacteriology*

17, 18.† *Advanced Bacteriology*

20. *Ornithology*

Professor WALTER.

[24.† *Physiology*]

Not offered in 1913-14.

BOTANY

1, 2. *General Course*

Professor YORK.

Tu., Wed., Sat., at 9.25.

3, 4.† *Physiological Anatomy*

5, 6.† *Comparative Morphology*

7, 8.† *Special Course*

[11, 12.† *Physiology*]

Not offered in 1913-14.

CHEMISTRY

1, 2. *Descriptive Chemistry*

Professor BUCHER and Mr. HOLT.

Tu., Th., Sat., at 12.25.

3, 4.† *Qualitative and Quantitative Analysis*

5, 6.† *Quantitative Analysis, Advanced Course*

7, 8.† *Organic Chemistry*

10.† *Assaying*

12.† *Organic Dyes*

15, 16.† *Physical Chemistry*

20.† *Inorganic Chemistry, Advanced Course*

21, 22.† *Organic Preparations, Advanced Course*

23, 24.† *Inorganic Preparations, Advanced Course*

27, 28.† *Conference on Special Topics in Chemistry*

29, 30.† *Conference on Special Topics in Chemistry*

ECONOMICS

1. *Elementary Economics*

Professor MOTLEY.

First semester. Followed in the second semester by Social and Political Science 1. Tu., Th., Sat., at 12.25.

5, 6.† *Money and Banking*

7.† *Socialism and Labor Problems*

10.† *Tariff, Reciprocity, and Shipping Subsidies*

11, 12.† *Public Finance and Financial History*

[13.† *Statistics*]

Not offered in 1913-14.

[14.† *Accounting*]

Not offered in 1913-14.

15.† *Trade and Transportation*

16.† *Corporations and Corporation Finance*

21, 22.† *Investigation of Special Topics*

23, 24.† *Economic Seminary*

EDUCATION

1. *History of Education*

Professor JACOBS.

First semester. *Mon., Wed., Th., at 10.25.*2. *Principles of Education*

Professor JACOBS.

Second semester. *Mon., Wed., Th., at 10.25.*3. *Psychology of Education*

Professor COLVIN.

First semester. *Mon., Th., Fri., at 9.25.*4. *Practical Introduction to Teaching*

Professor COLVIN.

Second semester. *Mon., Th., Fri., at 9.25.*

ENGLISH

1. *Rhetoric and Composition*

Professor HASTINGS, Messrs. WILLIAMS and KOOPMAN.

First semester. *1st div., Mon., Th., Fri., at 9.25; 2d div., Tu., Wed., Sat., at 9.25.*2. *Rhetoric and Composition*

Professor HASTINGS, Messrs. WILLIAMS and KOOPMAN.

Second semester. *1st div., Tu., Fri., Sat., at 10.25; 2d div., Mon., Tu., Th., at 3.25.*48. *English Literature from the Beginning to 1798*

Professor HASTINGS.

Second semester. *Mon., Th., Fri., at 9.25.*5, 6. *English Composition, Advanced Course*

Professor BENEDICT.

Mon., Wed., Th., at 10.25.[7, 8. *Argumentative Composition*]

Not offered in 1913-14.

[11, 12. *Public Speaking*]

Not offered in 1913-14.

15, 16.† *Old English*

17, 18. *Chaucer*

Professor POTTER.

Tu., Th., Fri., at 3.20.

21, 22.† *The Drama in England to 1642*

23, 24. *The Modern English Drama*

Professor CROSBY.

Tu., Fri., Sat., at 10.25.

25, 26. *Shakspere*

Professor POTTER.

Tu., Th., Sat., at 12.25.

[27, 28. *Shakspere*]

Not offered in 1913-14.

[31, 32. *English Literature from 1660 to 1798*]

Not offered in 1913-14.

35. *English Literature from 1798 to 1832, Poetry*

Professor BENEDICT.

First semester. Tu., Fri., Sat., at 10.25.

36. *English Literature from 1798 to 1832, Prose*

Professor BENEDICT.

Second semester. Tu., Fri., Sat., at 10.25.

37. *English Literature from 1832 to 1892, Prose*

Professor DAMON.

First semester. Tu., Th., Sat., at 12.25.

38. *English Literature from 1832 to 1892, Poetry*

Professor DAMON.

Second semester. Tu., Th., Sat., at 12.25.

[39, 40. *American Literature*]

Not offered in 1913-14.

[42. *Contemporary English and American Literature*]

Not offered in 1913-14.

[43, 44. † *Seminary in English Literature*]

Not offered in 1913-14.

GEOLOGY

1. *General Geology*

Professor BROWN.

First semester. *Wed., Fri., Sat., at 11.25.*6. *Economic Geography and Conservation*

Professor BROWN.

Second semester. *Wed., Fri., Sat., at 11.25.*9, 10. † *Mineralogy and Petrography*11, 12. † *Research in Geology and Geography*

GERMANIC LANGUAGES AND LITERATURES

1, 2. *Elementary Course, First Year*

Mr. MITCHELL.

*Mon., Wed., Fri., at 12.25.*3, 4. *Elementary Course, Second Year*

Professor CROWELL.

*Mon., Wed., Fri., at 12.25.*5, 6. *Intermediate Course*

Mr. KEENAN.

*Mon., Wed., Fri., at 12.25.*7, 8. *Advanced Course in Standard Authors, Classical and Modern*

Mr. RAND.

*Mon., Wed., Fri., at 12.25.*9, 10. † *Modern Prose*

11, 12. *German Lyrical Poetry*

Professor VON KLENZE.

Tu., Wed., Sat., at 9.25.

[15, 16. *The German Drama of the Nineteenth Century*]

Not offered in 1913-14.

[17, 18. † *Lessing and Schiller*]

Not offered in 1913-14.

25, 26. † *Outline History of German Literature*[27, 28. † *German Literature in the Nineteenth Century*]

Not offered in 1913-14.

[31. † *Gothic*]

Not offered in 1913-14.

[32. † *Old High German*]

Not offered in 1913-14.

33. † *Old Norse*34. † *Germanic Mythology*35, 36. † *Middle High German*

GREEK LITERATURE AND HISTORY

[A, B. *Elementary Course*]

Not offered in 1913-14.

1. *Homer and the Greek Anthology*

Professor MANATT.

Mon., Tu., Th., at 11.25.

2. *Plato and Lysias*

Professor ALLINSON.

Mon., Tu., Th., at 11.25.

3. *Lucian and the Dramatic Poets*

Professor ALLINSON.

First semester. *Wed., Fri., Sat., at 11.25.*4. *The Historians*

Professor MANATT.

Second semester. *Wed., Fri., Sat., at 11.25.*5. *Epic Poetry*

Professor MANATT.

First semester. *Mon., Wed., Fri. at 12.25.*6. *The Drama*

Professor MANATT.

Second semester. *Mon., Wed., Fri., at 12.25.*[7. *Lyric and Pastoral Poetry*]

Not offered in 1913-14.

[8. *Plato, Aristotle, and Aeschylus*]

Not offered in 1913-14.

[9. *The Attic Orators*]

Not offered in 1913-14.

[10. *Lucian and Pausanias*]

Not offered in 1913-14.

12. *Greek Composition*

Professor ALLINSON.

Second semester.

15. *Greek Civilization*

Professor ALLINSON.

Second semester. *Mon., Th., Fri., at 9.25.*17, 18. † *Greek Seminary*20. *Introduction to Greek Archaeology*

Outline of the remains of the earliest Greek civilization; an introductory study of Greek vases, coins, small bronzes, and terra-cotta

figurines. Intended to give a general survey of these sources for Greek history and life. Illustrated lectures; collateral reading. *Professor KING.*

Three hours. Second semester. Elective for students who have completed one course in Latin or Greek. *Mon., Th., Fri., at 9.25.*

HISTORY

1, 2. *Medieval and Modern History of Europe*

Professor MACDONALD.

Mon., Tu., Th., at 11.25.

3.† *Early and Medieval Christianity*

4.† *The Reformation*

5. *The French Revolution and the Napoleonic Era*

Professor COLLIER.

First semester. *Mon., Tu., Th., at 11.25.*

6. *Europe since 1815*

Professor COLLIER.

Second semester. *Mon., Tu., Th., at 11.25.*

[7. *English History, to 1603*]

Not offered in 1913-14.

[8. *English History, 1603 to the present time*]

Not offered in 1913-14.

11, 12.† *Seminary in European History*

13, 14. *American History*

Professor MACDONALD.

Tu., Fri., Sat., at 10.25.

15, 16.† *Constitutional and Political History of the United States*

17, 18.† *Seminary in American History*

[19.† *Social History of America to 1787*]

Not offered in 1913-14.

[20.† *History of the United States since 1860*]

Not offered in 1913-14.

MATHEMATICS

1. *Solid and Spherical Geometry*

Professors RICHARDSON and ARCHIBALD.

First semester. *Tu., Fri., Sat., at 10.25.*

2. *Plane Trigonometry*

Professors RICHARDSON and ARCHIBALD.

Second semester. *Tu., Fri., Sat., at 10.25.*

3. *Algebra*

Professor MANNING.

First semester. *Mon., Wed., Fri., at 12.25.*

4. *Algebra*

Professor MANNING.

Second semester. *Mon., Wed., Fri., at 12.25.*

5. *Plane Analytic Geometry*

Professor DAVIS.

First semester. *Mon., Th., Fri., at 9.25.*

6. *Differential Calculus*

Professor DAVIS.

Second semester. *Mon., Th., Fri., at 9.25.*

7, 8.† *Differential and Integral Calculus*

9.† *Differential Equations*

[12.† *Modern Analytic Geometry*]

Not offered in 1913-14.

21, 22.† *Function Theory of a Complex Variable*

[25, 26. † *Advanced Algebra*]

Not offered in 1913-14.

[29, 30. † *Function Theory of a Real Variable*]

Not offered in 1913-14.

31, 32. † *Applications of Calculus to Geometry*

41, 42. † *Fundamental Problems of Algebra*

[43, 44. *Foundations, Methods, and Problems of Geometry*]

Not offered in 1913-14.

MUSIC

1, 2. *Evolution of Modern Music*

Professor MACDOUGALL.

Mon., Wed., at 11.25.

[3. *Advanced Harmony*]

Not offered in 1913-14.

[4. *The Opera*]

Not offered in 1913-14.

PHILOSOPHY

1, 2. *Logic*

Professor JONES.

Tu., Th., Sat., at 12.25.

3. *Psychology*

Professor DELABARRE.

Through the year. Tu., Fri., Sat., at 10.25.

[4. *Ethics*]

Not offered in 1913-14.

5, 6. † *Intermediate Course*

7, 8. *History of Philosophy*

Professor EVERETT.

Mon., Wed., Th., at 10.25.

[9. *Philosophy of Religion*]

Not offered in 1913-14.

10.† *Applications of Psychology*

11, 12.† *Experimental Psychology, Introductory Laboratory Course*

13, 14.† *Problems of Philosophy*

17, 18.† *Psychology, Advanced Course*

19, 20.† *Experimental Psychology, Advanced Laboratory Course*

21, 22.† *Advanced Ethics*

[23, 24.† *Philosophical Seminary*]

Not offered in 1913-14.

PHYSICS

1, 2. *Elementary Physics*

Professor BARUS.

Mon., Tu., Th., at 11.25.

3, 4.† *Elementary Physics, continued*

5, 6.† *Experimental Physics*

7, 8.† *Mathematical Treatment of Dynamical Problems*

9, 10.† *Mathematical Theory of Electricity and Magnetism*

11, 12.† *Advanced Laboratory Course*

13, 14.† *Applied Harmonic Analysis and Applied Vector Analysis*

15, 16.† *Physics, Advanced Course*

23, 24.† *Precision Measurements in Photometry, Electricity, and Magnetism*

25, 26.† *Radiation, Optics, and Heat*

ROMAN LITERATURE AND HISTORY

1. *Livy*

Professor GREENE.

First semester. *Mon., Tu., Th., at 2.25.*2. *Cicero's Letters*

Professor GREENE.

Second semester. *Mon., Tu., Th., at 2.25.*3. *Catullus and Virgil*

Professor KING.

First semester. *Mon., Wed., Th., at 10.25.*4. *Horace's Satires and Epistles, Juvenal*

Professor HARKNESS.

Second semester. *Mon., Wed., Th., at 10.25.*5, 6. *Latin Poetry*

Professors HARKNESS and GREENE.

Tu., Th., Sat., at 12.25.[7, 8. *Latin Prose*]

Not offered in 1913-14.

[11, 12. *Latin Composition*]

Not offered in 1913-14.

16. *Roman Civilization*

Professor GREENE.

First semester. *Mon., Th., Fri., at 9.25.*

ROMANCE LANGUAGES AND LITERATURES

1, 2. *Elementary Course, First Year*

Mr. MICOLEAU.

*Mon., Wed., Th., at 10.25.*5, 6. *Intermediate Course*

Professor HUNKINS.

Mon., Wed., Th., at 10.25.

7, 8. *Advanced Course*

Professor JOHNSON.

Tu., Wed., Sat., at 9.25.

9, 10.† *The Realistic School*[11, 12. *The Romantic School*]

Not offered in 1913-14.

13, 14. *The Classical School*

Professor LANGDON.

Tu., Wed., Sat., at 9.25.

15, 16.† *Modern Spanish*17, 18.† *Modern Italian*

Professor LANGDON.

19, 20. *Dante in English*

Professor LANGDON.

Wed., Fri., Sat., at 11.25.

21, 22.† *Spanish Language and Literature*23, 24. *Practice in Writing and Speaking French*

Professor JOHNSON.

Mon., Wed., Th., at 10.25.

SOCIAL AND POLITICAL SCIENCE

SOCIAL SCIENCE

1. *Elementary Social and Political Science*

Professor DEALEY.

Second semester. Preceded by Economics 1. Tu., Th., Sat., at 12.25.

3, 4. *Social Problems and Conditions*

Professor BRISTOL.

Wed., Fri., Sat., at 11.25.

7.† *Introduction to Social Philosophy*

8.† *Sociology as a Science*[11, 12.† *Seminary in Sociology*]

Not offered in 1913-14.

13, 14.† *Investigation of Special Topics*

POLITICAL SCIENCE

1. *Elementary Political and Social Science*

See Social Science 1.

[3, 4. *Government and Politics of the United States*]

Not offered in 1913-14.

13, 14.† *Investigation of Special Topics*

HYGIENE AND PHYSICAL EDUCATION

M. ELIZABETH BATES, *Instructor*

From Thanksgiving until the Spring recess, first and second year students are required to attend classes in the gymnasium three times a week. Seniors and Juniors may elect one, two, or three hours. In the fall and spring all students may take athletics. Students are carefully examined before exercise is assigned.

FRESHMAN CLASS. Gymnastics, games, dancing, and conferences in practical hygiene. Three hours. *Mon., Tu., Th., 3.30 to 4.15.*

SOPHOMORE CLASS. Gymnastics, games, dancing, and conferences in practical hygiene. More advanced than Freshman work. Three hours. *Mon., Tu., Th., 2.30 to 3.15.*

SENIOR AND JUNIOR ELECTIVE CLASS. Similar to the required work, but more advanced. One or two hours. *Tu., 4.30 to 5.15; Fri., 2.30 to 3.15.*

PLAY COURSE. Play, games, and folk dances suitable for elementary schools, playgrounds, and social settlements. Elective. One hour. *Fri., 3.30 to 4.15.*

RESTRICTED EXERCISE. Restricted gymnastics, games, and dancing will be offered to students who, because of their organic condition, or of temporary disability, are unable to take the regular class work.

REST AND HYGIENE READING. Students who are not able to take the required exercise in the gymnasium will be assigned to the rest room as a substitute. They will also do prescribed reading in personal hygiene and have conferences in hygiene with the instructor.

REMEDIAL EXERCISE. Special remedial work will be given to students who have round shoulders, lateral curvature of a functional nature, or flat foot.

ATHLETICS. All students are offered basket ball, tennis, and bowling under the supervision of the instructor during the entire year.

ORGANIZATION OF THE WOMEN'S COLLEGE

INSTRUCTION for undergraduate women ‡ is provided by a department of the University known as **THE WOMEN'S COLLEGE IN BROWN UNIVERSITY**. The aim of the Women's College is to offer to all properly prepared women the same examinations, the same courses of study under the same teachers, and the same degrees that the University offers to men, but to preserve the distinct social life of a separate college.

The Corporation of the University has supervision and control of the Women's College as of other departments of the University, and for this purpose appoints annually an Executive Committee of the Women's College. The Corporation receives gifts of money to found scholarships, fellowships, and professorships in Brown University for the benefit of its women students, and for the general purposes of the Women's College, and holds and administers such funds as separate and distinct from the general funds of the University. All gifts, legacies, and bequests for the Women's College, like those meant for any other department of the University, should be made payable to "Brown University, in Providence, in the State of Rhode Island and Providence Plantations," and designated for the use of the Women's College.

The President of the University is charged with the general direction, supervision, and government of this College as of other departments of the University. The immediate direction, supervision, and control devolve, subject to the direction of the President, on the Dean of the Women's College. An Advisory Council, appointed under the authority of the Corporation, advises with the President and the Dean upon matters relating to the Women's College, and makes recommendations to the Executive Committee of the Women's College or to the Corporation.

The Faculty of the Women's College is composed of the heads of all departments of instruction in Brown University, together with all professors and instructors who are actually teaching in the College.

The Women's College has a separate recitation hall, gymnasium, dormitory, and tennis ground, but uses the various libraries, laboratories, and museums of the University. For a description of these latter buildings, see pages 144-153. The grounds of the Women's College are an eighth of a mile from the University, with the main entrance at 172 Meeting Street. Pembroke Hall, the

‡ In the Graduate Department of Brown University all courses intended for graduate students are open to women on the same terms as to men.

recitation building, contains the offices of the Dean and the Registrar, recitation rooms, a reading room and a library, a study, a chapel, and a lunch room. The Sayles Gymnasium contains the offices of the Instructor in Physical Training, a large hall with a gallery, two rest rooms, a room for corrective work, and a relaxation room; the basement is fitted up with dressing rooms, bathrooms, lockers, needle and shower baths, and bowling alleys. The dormitory, Miller Hall, opened in 1910, is on the college campus. It contains a library, reception, dining, and sitting rooms, an apartment for the Hall Mistress, and rooms for forty-eight students.

Bulletins of the Women's College may be obtained from the Registrar, The Women's College in Brown University, Providence, R. I. For information not contained in this Catalogue or in the Bulletins, apply to the Dean of the Women's College, Pembroke Hall, Providence, R. I.

REQUIREMENTS FOR ADMISSION

The requirements for admission to the Women's College are the same as those which the University prescribes for men. For information concerning admission by certificate or examination, and the times and places of examinations, see pages 31, 32. Certificates and applications for permission to take examinations should be sent to the Registrar of the University. For the entrance requirements for the various degrees, admission to advanced standing, and admission of special students, see pages 35-52. Each applicant for registration as a special student must consult the Dean of the Women's College before registering.

REGISTRATION AND ENROLMENT

The regulations governing registration and enrolment are the same at the Women's College as at the University. (See pages 53, 54.) All students must apply for registration and enrolment at the office of the Registrar of the Women's College, in Pembroke Hall, between 9 a.m. and 12 m., or between 2 p.m. and 4 p.m., on either of the two days preceding the opening of college. Permission to change a previous registration must be obtained from the Dean, on the same days and at the same hours.

REQUIREMENTS FOR DEGREES

The requirements for the various degrees are explained on pages 55-66. Upon students of the Women's College who complete satisfactorily the work leading to the degree of Bachelor of Arts, Bachelor of Philosophy, or Bachelor of Science, the Board of Fellows of the University confers the appropriate degree. For the degrees conferred in 1913, see pages 183-186.

HYGIENE AND PHYSICAL EDUCATION

The aim of the work in Hygiene and Physical Education is to encourage habits

of good hygienic living, special emphasis being placed upon proper body-posture, rational exercise, and rest. To this end, hygiene conferences with each student are held from time to time, a reference library in simple practical hygiene is supplied, physical examinations are given before the assignment of exercise and at the end of the year, and facilities are provided for exercise and rest. The courses offered in the gymnasium (see page 228) afford an opportunity for all students to take supervised exercise during the entire year. Out-door sports are also supervised by the Instructor. The rest rooms in Sayles Gymnasium are always open for the use of all students.

A thorough examination of all new students, basket-ball players, and such other students as need it is made at the beginning of each year by the Instructor in Hygiene and Physical Education and Dr. Frank T. Fulton. All new students are required to attend lectures on Hygiene, and a course in general Biology (Biology 1, 2) is required of all candidates for the degree of Bachelor of Philosophy.

CHAPEL EXERCISES

Chapel service is held four days a week at 9 a.m. On Wednesday morning at 9 a.m. the Student Government Association holds a mass meeting. Attendance is required on all five days. The weekly meeting of the Young Women's Christian Association is held on Fridays at 1.45 p.m.

FEES

Students at the Women's College pay the tuition fee of \$150 in two instalments: \$75 upon registration in September and \$75 upon registration in February. Freshmen pay a matriculation fee of \$5 upon registering in September. No deduction in tuition is made on account of absence. Laboratory fees, etc., must be paid two weeks before the close of a semester.

Special students at the Women's College are charged \$15 a semester for each course holding three recitations a week. Laboratory fees are in addition to this.

DORMITORY ACCOMMODATIONS

Miller Hall, the college dormitory, contains forty-eight single rooms, adequately furnished. The charge for room and board varies from \$270 to \$260 a year. Definite applications for rooms must be received by the Hall Mistress on or before May 1. The plan of the building, with other needed information, is printed in a separate pamphlet, which may be obtained from Miss S. G. Ross, Hall Mistress, Miller Hall, 118 Cushing Street. Students who cannot secure rooms in Miller Hall are required to live in houses authorized by the College. A list of these may be obtained from the Hall Mistress.

LOAN FUNDS, SCHOLARSHIPS, AND FELLOWSHIPS

The College has a loan fund and various scholarships designed to aid deserving students. Aid is given only to students whose work is creditable, and is withdrawn if the recipients become deficient in scholarship or subject to college discipline. Applications should be made in writing to the Dean of the Women's College on or before May 1. Awards are made after July 1.

The Rhode Island Society for the Collegiate Education of Women has founded a Loan Fund from which students of the Women's College who have completed their first year may borrow moderate sums at a low rate of interest. This fund is available only for students whose record for scholarship is satisfactory to the committee which administers the loans. Further information may be obtained from the Dean.

The Rhode Island Women's Club annually devotes the income of its Churchill Fund toward the payment of the tuition of some student in the Women's College, preferably the daughter of a member of the Club.

There are also the following endowed scholarships :

THE SARAH E. DOYLE SCHOLARSHIP, of one thousand dollars, which bears the name of its founder; the income is applied toward the payment of the tuition of students in the Women's College who have been prepared for college in the Providence English High School.

THE SARAH SUTTON SCHOLARSHIP, of one thousand dollars, founded by one of her daughters.

THE DANIELS SCHOLARSHIP, of twenty-five hundred dollars; the income to be used toward paying the expenses of one or more women pursuing studies either in the University or in the Women's College.

THE HOWARD SCHOLARSHIP, of one thousand dollars, presented by James Leland Howard.

THE THAYER SCHOLARSHIP, founded by Edward C. Thayer, in honor of his father, Joseph Thayer, of the class of 1815; the income to be for the education of any young man or woman, a resident of Uxbridge, Mass., indorsed by the selectmen and superintendent of schools there, needing pecuniary aid, and giving promise by character and scholarship of a life of usefulness. If there is no applicant from Uxbridge, the income may go to any applicant from Massachusetts who fulfills the conditions.

THE MARIA STORRS PECK SCHOLARSHIP, of one thousand dollars, presented by her sisters.

THE ELI THAYER SCHOLARSHIP OF THE OREADS, of three thousand dollars, founded by the Oread Collegiate Institute Association, in memory of the Hon. Eli Thayer, the founder of the Institute; the income to be for the education of a deserving student in the Women's College, preferably a descendant of a former student of the Institute.

THE WILLIAM FULLER AYER SCHOLARSHIPS, two of two thousand dollars each, one of one thousand dollars, founded by Dr. Oliver H. Arnold in memory of William Fuller Ayer; the income is given "to poor and deserving students showing diligence and marked ability in their collegiate studies."

THE DAVID W. HOYT SCHOLARSHIP, of two thousand dollars, founded by the Alumni Association of the Providence English High School; the income to go each year to some young man or woman designated by the Principal or the Acting Principal, for the time being, of the Providence High School, subject to the approval of the President or the Acting President, for the time being, of Brown University.

THE EMMA JOSEPHINE (AYER) ARNOLD ARCHAEOLOGICAL FELLOWSHIP, of ten thousand dollars, founded by Dr. Oliver H. Arnold in memory of his wife; the income is awarded, first, to a member of the graduating class, or, second, to a graduate of not more than ten years' standing, who is adequately prepared for post-graduate work in Archaeology, either Classical or Oriental, and who through scholarly attainments and by habits of zealous and diligent study gives great promise of a useful and successful career. The income is to be applied to the expenses of a one, two, or three year course in Archaeology either in the United States or in any foreign country. In case there is no applicant of sufficient merit among the alumnae, the Fellowship is to be awarded for one year to an alumnus of the University who meets the above requirements. If there are no applicants for the use of this Fellowship in Archaeology, it is to be given for one year of post-graduate work in Higher Mathematics to an alumna who has exceptional ability and intends to follow the teaching of Mathematics as a profession. Applications for this fellowship should be accompanied by academic records, testimonials as to character, ability, and health, specimens of written work, and a statement of the applicant's plan of work, and should be sent to Dean King before January 1, 1914.

The College awards annually from its own funds scholarships of varying amounts, to students in need of financial aid.

PRIZES, PREMIUMS, AND HONORS

THE GASPEE CHAPTER DAUGHTERS OF THE AMERICAN REVOLUTION PRIZE. This prize of forty dollars is awarded annually to that student in the graduating class of the Women's College who shall present the best essay of recognized merit upon some topic in American history. The essays are to bear each an assumed name, and to be accompanied by an envelope marked with the assumed name and inclosing the candidate's real name and address. The essays must be handed to the Dean before May 15. The award is announced at Commencement. The subject for 1913-14 is: *The Public Life of Samuel Ward*.

THE CHACE PRIZE. The will of Mrs. Elizabeth D. Chace makes provision for a prize of twenty-five dollars, to be awarded to that student of the Women's College who shall present the best essay, of recognized merit, upon the Women's Suffrage Movement.

THE SOCIETY OF COLONIAL DAMES PRIZE IN AMERICAN HISTORY. The income of a fund of fifteen hundred dollars, known as the Roger Williams Fund established by the National Society of Colonial Dames in the State of Rhode Island and Providence Plantations, given to the University in 1906, is awarded annually as a prize for the best essay on a subject in American colonial history. The competition is open to Juniors, Seniors, and Graduates, and to men and women on equal terms. Essays must show independent use of authorities, and should, in general, extend to at least four thousand words. Detailed regulations governing the competition are announced from year to year. The award is announced at Commencement. The subject for 1913-14 is: *A Comparative Study of Religious History in Rhode Island and in Maryland during the Seventeenth Century.*

THE EDYTHE PECK ADAMS PRIZE. This prize is offered by the Class of 1901 for the best short story written by an undergraduate of the Women's College.

ADDITIONAL PREMIUMS. The students of the Women's College are entitled to compete in all examinations for premiums and prizes offered in Brown University. In case any woman is entitled to a first premium, competed for by examination, a prize, the amount of which is duly announced, is awarded by the Dean.

FINAL HONORS are awarded by the University to women on the same conditions as to men. (See pages 181-184.)

PRIZES AND PREMIUMS AWARDED IN 1913

The Gaspee Chapter Daughters of the American Revolution Prize, to

MARY MADELEINE KANE

The Chace Prize to

MARY ELIZABETH BARNICLE

The Edythe Peck Adams Prize to

MARY LYON BOSWORTH

A collateral first premium in Greek to

MARY ELIZABETH BARNICLE

STUDENTS IN THE WOMEN'S COLLEGE

SENIORS : CLASS OF 1914

NAME	RESIDENCE
Esther Georgina Anderson	<i>Providence</i>
Violet Helen Anderson	<i>Redfield, S. Dak.</i>
Marguerite Appleton	<i>Providence</i>
Miriam Amy Banks	<i>Providence</i>
Marion Cheever Bates	<i>Providence</i>
Harriet Stanton Baxter	<i>Montello, Mass.</i>
Elizabeth Bodfish	<i>Palmer, Mass.</i>
Alita Dorothy Bosworth	<i>Providence</i>
Mary Lyon Bosworth	<i>Providence</i>
Dorris Snow Briggs	<i>Providence</i>
Helen Harriet Briggs	<i>Providence</i>
Laura Julia Brown	<i>Barrington</i>
Margaret Josephine Burdon	<i>Oakville, Ct.</i>
Mildred Myrtle Chapman	<i>Providence</i>
Grace Amelia Cockroft	<i>North Chelmsford, Mass.</i>
Jane Wilson Cook	<i>Fall River, Mass.</i>
Ruth Elizabeth Cooke	<i>Providence</i>
Margaret Crooks	<i>Ravenswood, W. Va.</i>
Katherine Elizabeth Curry	<i>Longmeadow</i>
Mildred Elaine Cutler	<i>Pawtucket</i>
Hermione Louise Dealey	<i>Providence</i>
Marion Frances Devine	<i>Woonsocket</i>
Blanche Douglas	<i>Moosup, Ct.</i>
Mildred Morris Flagg	<i>Littleton, Mass.</i>
Anna Madeline Flaherty	<i>Valley Falls</i>
Helen Augusta Gilliland	<i>Norwood, Mass.</i>
Anna Ruth Goodchild	<i>Providence</i>
Margaret Ella Gordon	<i>Providence</i>
Mary Christina Grandfield	<i>Pawtucket</i>
Edith Edwina Holden	<i>West Barrington</i>
Dorothy Palmer Hull	<i>Providence</i>
Myrtle Horton Jones	<i>Seattle, Wash.</i>
Sybil Marguerite Kemp	<i>Kingston, N. H.</i>
Elena Roxana Lovell	<i>East Providence</i>
Marjorie Anita Mallory	<i>Providence</i>
Elizabeth Price Moulton	<i>Providence</i>
Mabel Irene Osborne	<i>Danville, N. H.</i>
Jenny Martha Palmer	<i>Cranston</i>

NAME	RESIDENCE
Winona Merle Perry	<i>Providence</i>
Annette Josephine Pritzkau	<i>Redfield, S. Dak.</i>
Maude Eunice Sears	<i>Providence</i>
Florence Louise Shaw	<i>Webster, Mass.</i>
Rowena Albro Sherman	<i>Providence</i>
Florence McGregor Simonds	<i>Franklin, Mass.</i>
Hope Sisson	<i>Providence</i>
Stella Mary Smith	<i>Fall River, Mass.</i>
Marjorie Arnold Thayer	<i>Woonsocket</i>
Maud Tucker	<i>Providence</i>
Alice Mary Waddington	<i>Providence</i>
Della Edith Wood	<i>Providence</i>
Helen Humphry Wood	<i>Providence</i>

JUNIORS : CLASS OF 1915

Elizabeth Lucy Angell	<i>Providence</i>
Madeleine Frances Bannan	<i>Providence</i>
Janet Macfarlane Bourn	<i>Providence</i>
Lucy Elizabeth Bourn	<i>Providence</i>
Katherine Canada	<i>Wellfleet, Mass.</i>
Almira Bashford Coffin	<i>Newport</i>
Lydia Louise Cooper	<i>Attleboro, Mass.</i>
Ethel Lucetta Crompton	<i>Methuen, Mass.</i>
Helen Lucille Crooker	<i>Meshanticut</i>
Grace Emma Currie	<i>Attleboro, Mass.</i>
Helen Alida Daniels	<i>Providence</i>
Marjorie May Farnum	<i>Uxbridge, Mass.</i>
Carrie Thompson Foulkes	<i>Mansfield, Mass.</i>
Marion Page Harley	<i>Pawtucket</i>
Emelia Adele Hempel	<i>Providence</i>
Ruth Margaret Henderson	<i>Norwich, Ct.</i>
Florence Belle Hopkins	<i>North Foster</i>
Marion Katherine Horton	<i>Danielson, Ct.</i>
Maybell Olney Kingsley	<i>Saylesville</i>
Gertrude Emma Kneeland	<i>Worcester, Mass.</i>
Marion Frances Knowlton	<i>Providence</i>
Lillian Irene Mathewson	<i>Johnston</i>
Alice Inez McMeehan	<i>Rumford</i>
Ruth Eleanor Norris	<i>Brockton, Mass.</i>
Helen Earl Potter	<i>Natick</i>
Elinor Edna Randall	<i>Providence</i>
Frances Marjorie Richardson	<i>Putnam, Ct.</i>

THE WOMEN'S COLLEGE

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NAME	RESIDENCE
Ethel Marguerite Sack	<i>Providence</i>
Blanche Antoinette Schiller	<i>Central Falls</i>
Ruth Sisson	<i>Providence</i>
Edna Goldberg Solinger	<i>Providence</i>
Edna Frances Southwick	<i>Pawtucket</i>
Nancy Steere	<i>Providence</i>
Elizabeth Agnes Sullivan	<i>Hamilton</i>
Pearle Lee Temple	<i>Providence</i>
Ruth Harriet Thayer	<i>Springfield, Mass.</i>
Elizabeth Gregory Walter	<i>Lyndonville, Vt.</i>
Alma May Waterman	<i>Cranston</i>
Mildred Wells	<i>Middleburgh, N. Y.</i>
May Chaffee West	<i>Seekonk, Mass.</i>
Gladys Elizabeth Wilbur	<i>Clinton, Mass.</i>
Charlotte Audra Young	<i>Bristol</i>
Lucy Alma Young	<i>Danielson, Ct.</i>

SOPHOMORES : CLASS OF 1916

Sara Wilhelmina Bennett	<i>North Providence</i>
Emma Lillian Black	<i>Providence</i>
Mildred Edith Bliss	<i>Providence</i>
Martha Marietta Burgess	<i>North Scituate</i>
Helen Rowland Burr	<i>Providence</i>
Mary Regina Butler	<i>Pawtucket</i>
Elizabeth Newton Buttrick	<i>Worcester, Mass.</i>
Albertine Louise Butts	<i>Providence</i>
Esther Clarissa Cook	<i>Woonsocket</i>
Margaret Frances Corey	<i>Pawtucket</i>
Elsie Wild Cushing	<i>North Providence</i>
Edith Chace Davis	<i>Chepachet</i>
Irene Celine Dougherty	<i>Providence</i>
Helen Gertrude Douglas	<i>Concord Junction, Mass.</i>
Sadie Jane Duguid	<i>North Grafton, Mass.</i>
Edith Violet Edwards	<i>Providence</i>
Natalie Florine Ellis	<i>Apponaug</i>
Marion Gray Evans	<i>Jefferson, N. H.</i>
Lily Mary Faust	<i>Cranston</i>
Sarah Newcomb Gallagher	<i>East Greenwich</i>
Helen Dudley Hartwell	<i>Providence</i>
Mabel Frances Hull	<i>Auburn</i>
Emma Frances Jenkins	<i>Oaklawn</i>
Anna Sara Jones	<i>Alton Bay, N. H.</i>

BROWN UNIVERSITY

NAME	RESIDENCE
Dorothy Margaret Leighton	<i>Providence</i>
Vivian Mildred Lewis	<i>Providence</i>
Elizabeth Eddy Little	<i>Edgewood</i>
Margaret McGonagle	<i>Pawtucket</i>
Margaret Gammell Meader	<i>Providence</i>
Mary Imelda O'Brien	<i>Providence</i>
Frances Patricia O'Connor	<i>Providence</i>
Marion Gertrude O'Day	<i>Worcester, Mass.</i>
Ethel Page	<i>Pawtucket</i>
Ruth Caroline Paine	<i>Apponaug</i>
Pauline Pearce	<i>Providence</i>
Elsie Pickles	<i>Providence</i>
Alice Olney Randall	<i>Providence</i>
Annie Evelyn Rathbun	<i>Anthony</i>
Emilie Lissette Sam	<i>Providence</i>
Rebecca Rogers Snow	<i>Pawtucket</i>
Helen Smith Speck	<i>Auburn</i>
Edith Marguerite Sprague	<i>Palmyra, Mich.</i>
Marion Elizabeth Stark	<i>Norwich, Ct.</i>
Marian Sweet	<i>Providence</i>
Clara Mabel Thompson	<i>Providence</i>
Helen Marguerite Thompson	<i>Saylesville</i>
Marian Marsh Torrey	<i>Providence</i>
Emma Rose Wagner	<i>Pawtucket</i>
Adele Madeleine Wildes	<i>Edgewood</i>
Gladys Evelyn Winsor	<i>Providence</i>
Alice May Wood	<i>Providence</i>

FRESHMEN : CLASS OF 1917

Annie Alvira Adams	<i>No. Attleboro, Mass.</i>
Sarah Ella Angell	<i>Providence</i>
Annie Allen Averill	<i>Pomfret Centre, Ct.</i>
Ruth Barton	<i>Centreville</i>
Hazel Shaw Bethel	<i>Woonsocket</i>
Hazel Marjorie Blaisdell	<i>E. Franklin, Me.</i>
Jeannette Saunders Cahoon	<i>Taunton, Mass.</i>
Margaret Elizabeth Carr	<i>Newport</i>
Eunice Elizabeth Chace	<i>No. Attleboro, Mass.</i>
Helen Liefert Cohen	<i>Reading, Pa.</i>
Amanda Elsie Collette	<i>Fisherville, Mass.</i>
Marjorie Cotton	<i>Providence</i>
Elizabeth Van Everen Ferguson	<i>Providence</i>

THE WOMEN'S COLLEGE

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NAME	RESIDENCE
Mary Drusilla Flather	<i>Lowell, Mass.</i>
Elsie Gaskill	<i>Providence</i>
Ruth Harvey Hall	<i>Plainfield, Ct.</i>
Mabel Eunice Harrington	<i>Providence</i>
Grace Ethel Hawk	<i>Reading, Pa.</i>
Beatrice Elizabeth Hincks	<i>Providence</i>
Ella Katharyn Hudson	<i>Uxbridge, Mass.</i>
Bessie Turner Keene	<i>Providence</i>
Louise Cecilia Kennedy	<i>Moosup, Ct.</i>
Marian Gertrude Lewis	<i>Providence</i>
Mary Edgarton Longley	<i>Worcester, Mass.</i>
Lena Rose Lopiansky	<i>Hartford, Ct.</i>
Alice Louise McCaffrey	<i>Woonsocket</i>
Anna Hildegard Mee	<i>Woonsocket</i>
Sarah Ida Morse	<i>Edgewood</i>
Ruth Evelyn Myrick	<i>Providence</i>
Elsie Northup	<i>Peace Dale</i>
Marcella Philippa O'Donnell	<i>Woonsocket</i>
Edna Paine	<i>Chepachet</i>
Bertha Mae Prentiss	<i>Springfield, Mass.</i>
Florence Relief Rhodes	<i>Oxford, Mass.</i>
Marjorie Aline Robertson	<i>Edgewood</i>
Elizabeth de Welden Root	<i>Providence</i>
Ruth Rosenbaum	<i>Newark, N. J.</i>
Lucy Standerwick Stadtfeld	<i>Phenix</i>
Edith Charlotte Swanson	<i>Crompton</i>
Helen Tingley	<i>Bristol</i>
Florence Llewellyn Tracy	<i>Whitman, Mass.</i>
Lena Frances Uhlig	<i>Attleboro, Mass.</i>
Margaret Walthall	<i>Bayonne, N. J.</i>
Viola Mae Warner	<i>Rockland</i>
Harriet Cutler Waterman	<i>Providence</i>
Winnifred Caroline Wetherbee	<i>Fall River, Mass.</i>
Ruth Young	<i>Providence</i>

SPECIAL STUDENTS

Doris Dwinal Aldrich	<i>Providence</i>
Jessie Anna Bertram	<i>Providence</i>
Helen Inman Binning	<i>Providence</i>
Marion Arlette Cooke	<i>Providence</i>
Edna Rhodes Gardiner	<i>Providence</i>
Anna Peña Hass	<i>Rehoboth, Mass.</i>

NAME
Grace Herreshoff
Stella Leonore La Fond
Katherine May Lamb
Frances Semle
Mary Stillman

RESIDENCE
<i>Providence</i>
<i>Woonsocket</i>
<i>Mystic, Ct.</i>
<i>Providence</i>
<i>E. Providence</i>

APPENDIX

THE BROWN UNIVERSITY TEACHERS' BUREAU

THE Brown University Teachers' Bureau was established for the purpose of facilitating communication between the heads of educational institutions and graduates of Brown who desire positions as teachers. To this end it solicits correspondence with those who are seeking teachers, and invites inspection of the list of teachers now registered. It advises graduates of Brown who wish its assistance to register at once, and, if possible, to meet the Secretary in a personal interview. It offers to undergraduates information as to subjects in which there is a demand for teachers, as to positions commonly open to recent graduates, and as to the preparation usually required. No charge for the services of the Bureau is made either to students or to schools. It is the further purpose of the Bureau to foster coöperation between the University and all graduates engaged in the work of education. As far as possible an accurate register of the addresses and the positions of all such graduates is kept. The office of the Secretary, Professor WALTER BALLOU JACOBS, is in the John Hay Library.

THE BROWN UNIVERSITY BUREAU OF APPOINTMENTS

This Bureau has been established to assist former students of the University in securing other kinds of employment than those cared for by the Teachers' Bureau. It desires to obtain from friends of the University information in regard to positions available for college men. This information it will supply to those who may register with the Bureau. Blanks for this purpose may be obtained from the Secretary and no charge will be made for the services of the Bureau. The office of the Secretary, Professor ANSEL BROOKS, is in the Engineering Building, Room 15.

THE BROWN UNIVERSITY TEACHERS' ASSOCIATION

The Brown University Teachers' Association was organized in 1903. The purpose of the Association is "first, to further the mutual interests of Brown University and the schools preparing students therefor; and second, to pro-

mote the welfare of the Alumni of the University who are teachers." The tenth annual meeting of the Association was held at Brown University on Friday and Saturday, March 28 and 29, 1913.

OFFICERS FOR 1913-14

President: ALBERT KNIGHT POTTER, A.M., *Associate Professor of the English Language, Brown University.*

First Vice-President: JOHN SHAW FRENCH, PH.D., *Principal, Morris Heights School, Providence.*

Second Vice-President: WALTER GOODNOW EVERETT, PH.D., *Professor of Philosophy, Brown University.*

Secretary: WALTER BALLOU JACOBS, A.M., *Professor of Education, Brown University.*

Treasurer: CLARENCE HARTWELL MANCHESTER, A.M., *Teacher of English, Technical High School, Providence.*

Executive Committee: THE OFFICERS OF THE ASSOCIATION AND THE PRESIDENT OF THE UNIVERSITY, *ex officio*; LIDA SHAW KING, LL.D., *Dean of Women's College, Brown University*; ALFRED JOSEPH MARYOTT, *Principal High School, Peace Dale, R. I.*; JOHN KELSEY FENNER, A.B., *Principal High School, Cranston, R. I.*

THE RHODE ISLAND ALPHA OF THE PHI BETA KAPPA SOCIETY

OFFICERS AND COMMITTEES FOR 1913-14

President: ROBERT PERKINS BROWN, A.M.

Vice-President: PROFESSOR OTIS EVERETT RANDALL, PH.D.

Secretary: PROFESSOR JAMES QUAYLE DEALEY, PH.D.

Treasurer: CHARLES CARNEY MUMFORD, A.M.

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Auditing Committee: WALTER JAMES TOWNE, A.M., WILLIAM WASHBURN MOSS, A.M.

Committee on New Chapters: PROFESSOR JAMES QUAYLE DEALEY, PH.D., CHARLES ABBOTT PHILLIPS, A.B., ISAAC OSCAR WINSLOW, A.M.

MEN ELECTED IN 1913

Honorary: WILLIAM MACDONALD, CAMILLO VON KLENZE.

Seniors: CHARLES HARLAN ABBOTT, SAMUEL TOMLINSON ARNOLD, GEORGE BOAS, RALPH BRINCKERHOFF CRUM, ADRIAN GORDON GOULD, LEON CLIFFORD HIGH, KARL HENRY KOOPMAN, DANIEL HARRISON KULP, CLARENCE HORACE PHILBRICK, THOMAS HOWARTH ROBERTS.

Juniors: EDWARD IRVING EVERETT, HERBERT ELLIOTT FOOTE, MARION KENNETH FORWARD, JAMES JOSEPH MCGOVERN, HALSEY REGINALD NASH, RAYMOND ABNER PRESTON, CLARENCE NEWTON REYNOLDS, JR., HENRY PHILIP REYNOLDS.

WOMEN ELECTED IN 1913

Seniors: JESSIE HELEN BARR, MILDRED BROWNING, CORNELIA FILL, OTTILIE ROSE METZGER, ANNIE EVELYN OTTLEY.

Juniors: DORRIS SNOW BRIGGS, GRACE AMELIA COCKROFT, DOROTHY PALMER HULL.

THE BROWN CHAPTER OF THE
SOCIETY OF THE SIGMA XI

Students who have taken at least fifty-two semester hours in pure or applied science are, in their Senior year, eligible to membership in the honorary scientific society, Sigma Xi, provided that they have "given promise of marked ability in those lines of work which it is the object of the Society to promote."

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Recording Secretary: PROFESSOR ROLAND GEORGE DWIGHT RICHARDSON, PH.D.

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MEMBERS ELECTED IN 1912

Graduate: MARGARET FRANCES UPTON.

Seniors: CHARLES HARLAN ABBOTT, SAMUEL TOMLINSON ARNOLD, FRANK CARLETON BLAKE, HARRY CHAMBERLAIN BROWN, ADRIAN GORDON GOULD, HAROLD

ALDEN GROUT, MARION RAWSON LUTHER, CLARENCE NEWTON REYNOLDS, JR.,
THOMAS CLARK SHEDD.

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WYCKOFF, A.B., '95, SEEGER EDWARDS, LL.B., '91, ALBERT KNIGHT POT-
TER, A.M., '86, *ex officio*, and representatives chosen by the Alumni Asso-
ciations.

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BROWN UNIVERSITY

OFFICERS FOR 1913-14

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TABLE SHOWING RENT AND LOCATION OF DORMITORY ROOMS

HOPE COLLEGE

<i>No.</i>	<i>Division</i>	<i>Floor</i>	<i>Windows face</i>	<i>Bedrooms</i>	<i>Rent</i>
1	South	1	E. & S.	There are no separate bedrooms, but Nos. 1 and 2, 5 and 6, 9 and 10, 35 and 36, 39 and 40, 43 and 44, can be used either as suites or as single rooms.	\$136
2	"	"	W. & S.		142
3	"	"	W.		136
4	"	"	E.		133
5	"	2	E. & S.		136
6	"	"	W. & S.		142
7	"	"	W.		136
8	"	"	E.		133
9	"	3	E. & S.		127
10	"	"	W. & S.		137
11	"	"	W.		127
12	"	"	E.		121
13	"	4	E. & S.		121
14	"	"	W. & S.		127
15	"	"	W.		121
16	"	"	E.		118
17	Middle	1	E.		133
18	"	"	W.		136
19	"	"	W.		136
20	"	"	E.		133
21	"	2	E.		133
22	"	"	W.		136
23	"	"	W.		136
24	"	"	E.		133
25	"	3	E.		121
26	"	"	W.		127
27	"	"	W.		127
28	"	"	E.		121
29	"	4	E.		118
30	"	"	W.		121
31	"	"	W.		121
32	"	"	E.		118
33	North	1	E.		133
34	"	"	W.		136
35	"	"	W.		148
36	"	"	E.		148
37	"	2	E.		133
38	"	"	W.		136
39	"	"	W. & N.		148
40	"	"	E. & N.		148
41	"	3	E.		121
42	"	"	W.		127
43	"	"	W. & N.		136
44	"	"	E. & N.		136
45	"	4	E.		118
46	"	"	W.		121
47	"	"	W. & N.		127
48	"	"	E. & N.		127

BROWN UNIVERSITY

UNIVERSITY HALL

No.	Division	Floor	Windows face	Bedrooms	Rent
4	South	1	W.	None	\$140
10	"	2	S. & W.	2	235
12	"	"	W.	None	125
13	"	"	W.	"	125
16	"	"	E.	"	110
17	"	"	E.	"	116
18	"	"	E. & S.	"	143
19	"	3	S. & W.	2	225
21	"	"	W.	None	122
22	"	"	W.	"	122
25	"	"	E.	"	110
26	"	"	E.	"	110
27	"	"	E. & S.	"	131
28	"	4	S. & W.	2	205
30	"	"	W.	None	110
31	"	"	W.	"	110
32	"	"	E.	"	107
33	"	"	E.	"	107
34	"	"	E. & S.	"	131
36	North	1	W.	"	141
40	"	2	W.	"	125
41	"	"	W.	"	125
43	"	"	W. & N.	2	235
44	"	"	E. & N.	None	131
45	"	"	E.	"	116
46	"	"	E.	"	116
47	"	3	W.	"	116
48	"	"	W.	"	116
50	"	"	W. & N.	2	225
51	"	"	E. & N.	None	125
52	"	"	E.	"	110
53	"	"	E.	"	110
54	"	4	W.	"	110
55	"	"	W.	"	110
57	"	"	W. & N.	2	195
58	"	"	E. & N.	None	125
59	"	"	E.	"	107
60	"	"	E.	"	107

SLATER HALL

1	South	1	E. S. & W.	2	260.00
2	"	"	E. & W.	1	200.00
3	"	2	E. S. & W.	2	260.00
4	"	"	E. & W.	2	245.00
5	"	3	E. S. & W.	2	250.00
6	"	"	E. & W.	2	245.00
7	"	4	E. S. & W.	1	175.00
8, 9	"	"	W.	1	194.00
10	North	1	E. & W.	2	269.50
11	"	"	E. W. & N.	2	269.50

SLATER HALL (*continued*)

No.	Division	Floor	Windows face	Bedrooms	Rent
12	North	2	E. & W.	2	\$269.50
14	"	"	W. N. E.	2	286.00
15	"	3	W. & E.	2	264.00
17	"	"	W. N. E.	2	275.00
18, 19	"	4	E. & W.	1	206.80
20	"	"	W. N. E.	1	176.00

CASWELL HALL

1	North	1	E. N. & W.	1	375
2	"	"	E. & W.	1	350
3	"	2	E. N. & W.	2	375
4	"	"	E. & W.	2	350
5	"	3	E. N. & W.	2	375
6	"	"	E. & W.	2	350
7	"	4	E. & N.	<i>None</i>	195
8	"	"	W. & N.	"	195
9	"	"	W.	"	165
10	"	"	E.	"	165
11	Middle	1	"	"	175
12	"	"	W.	"	175
13	"	"	"	"	175
14	"	"	E.	"	175
15	"	2	"	"	185
16	"	2	W.	"	185
17	"	"	"	"	185
18	"	"	E.	"	185
19	"	3	"	"	185
20	"	"	W.	"	185
21	"	"	"	"	185
22	"	"	"	"	185
23	"	4	E.	"	165
24	"	"	W.	"	165
25	"	"	"	"	165
26	"	"	E.	"	165
27	South	1	E. & W.	1	350
28	"	1	E. S. & W.	1	375
29	"	2	E. & W.	2	350
30	"	"	E. S. & W.	2	375
31	"	3	E. & W.	2	350
32	"	"	E. S. & W.	2	375
33	"	4	E.	<i>None</i>	165
34	"	"	W.	"	165
35	"	"	W. & S.	"	195
36	"	"	E. & S.	"	195

BROWN UNIVERSITY

MAXCY HALL

<i>No.</i>	<i>Floor</i>	<i>Windows face</i>	<i>Rent</i>
313	3	E.	\$140
314	"	"	140
315	"	E. & S.	140
316	"	W. & S.	135
317	"	W.	135
318	"	"	135
319	"	"	135
320	"	"	135
321	"	W. & N.	135
322	"	E. & N.	140
323	"	E.	140
324	"	"	140
425	4	"	140
426	"	"	140
427	"	E. & S.	140
428	"	W. & S.	135
429	"	W.	135
430	"	"	135
431	"	"	135
432	"	"	135
433	"	W. & N.	135
434	"	E. & N.	140
435	"	E.	140
436	"	"	140

DIRECTORY TO THE DORMITORIES

Hope College, South Division, Rooms 1 to 16.

Hope College, Middle Division, Rooms 17 to 32.

Hope College, North Division, Rooms 33 to 48.

Maxcy Hall, Rooms 313 to 436.

Slater Hall, South Division, Rooms 1 to 9.

Slater Hall, North Division, Rooms 10 to 20.

University Hall, South Division, Rooms 1 to 34.

University Hall, North Division, Rooms 35 to 61.

Caswell Hall, North Division, Rooms 1 to 10.

Caswell Hall, Middle Division, Rooms 11 to 26.

Caswell Hall, South Division, Rooms 27 to 36.

SUMMARY OF REGISTRATION

UNDERGRADUATE MEN

Seniors	117
Juniors	151
Sophomores	176
Freshmen	193
Special Students	41
Total	678

THE WOMEN'S COLLEGE

Seniors	51
Juniors	43
Sophomores	51
Freshmen	47
Special Students	11
Total	203

GENERAL SUMMARY

Graduates	100
Undergraduate Men	678
Women's College	203
	981
Deduct for names counted twice	5
Total	976
Registered in Extension Courses, first semester, 1913-1914, and not included above	372

DIRECTORY OF OFFICERS AND STUDENTS

The addresses given are in Providence, unless otherwise stated. If an officer is on leave of absence for the year, his name is bracketed. The following abbreviations are used: *Fr.* = Freshman; *So.* = Sophomore; *Jr.* = Junior; *Sr.* = Senior; *Sp.* = Special Student; *Gr.* = Graduate Student; *W.* = Women's College; *J. C. B. L.* = John Carter Brown Library; *H.* = Hope College; *U.* = University Hall; *S.* = Slater Hall; *M.* = Maxcy Hall; *C.* = Caswell Hall; *B.* = Brunonia Hall; 65 College = 65 College Street, Providence, etc. Where no state is mentioned, Rhode Island is to be understood. The number *precedes* the name of a street, but *follows* the name of a building.

ABBOTT, Augustus L., <i>Trustee</i> 415 Pine, St. Louis, Mo.	Anderson, J. G., <i>Sr.</i> 24 George
Abbott, C. H., <i>Gr.</i> 127 Angell	ANDERSON, T. D., <i>Sec'y of Corpora-</i> <i>tion</i> 2 Wellington Ter., Brookline, Mass.
Abbott, J. B., <i>Jr.</i> 54 College	Anderson, V. H., <i>W. Sr.</i> 118 Cushing
Abel, A., <i>Fr.</i> 129 Prairie Ave.	Andrews, H. P., <i>So.</i> 65 College
ABERCROMBIE, D. W., <i>Trustee</i> Worcester, Mass.	Angell, C. H., <i>Jr.</i> 65 College
Adams, A. A., <i>W. Fr.</i> No. Attleboro, Mass.	Angell, E. L., <i>W. Jr.</i> 43 Hammond
Adelman, D. I., <i>Sr.</i> 228 Prairie Ave.	Angell, S. E., <i>W. Fr.</i> 43 Hammond
Adleman, M., <i>So.</i> 12 Camp	Anthony, A. W., <i>Jr.</i> H. 44
Affleck, J. G., Jr., <i>Sr. Gr.</i> 4 Manning	Appleget, T. B., <i>Fr.</i> U. 13
Affleck, W. R., <i>So.</i> 4 Manning	APPLETON, J. H., <i>Prof.</i> 209 Angell
Ainsworth, L. J., <i>Sr.</i> H. 8	Appleton, M., <i>W. Sr.</i> 209 Angell
Aldrich, D. D., <i>W. Sp.</i> 290 California Ave.	ARCHIBALD, R. C., <i>Asst. Prof.</i> 9 Charles Field
Allard, R. U., <i>Fr.</i> H. 27	Armstrong, R. A., <i>Fr.</i> H. 42
Allen, C. G., <i>Sp.</i> 4 Manning	Arnold, G. R., <i>So.</i> 199 Lockwood
Allen, E., <i>Jr.</i> H. 11	Arnold, L. R., <i>So.</i> No. S.
Allen, R. D., <i>Gr.</i> 91 Narragansett, Edgewood	ARNOLD, S. T., <i>Gr. Asst.</i> 119 Waterman
ALLINSON, F. G., <i>Prof.</i> 163 George	ASHTON, J. H., <i>Engineer</i> 29 Preston
ALLINSON, Mrs. F. G., <i>Adv. Coun-</i> <i>cil, W.</i> 163 George	Atwater, K. N., <i>Fr.</i> C. 29
Allison, S. W., <i>Jr.</i> H. 2	ATWATER, R. M., <i>Trustee</i> Chadds Ford, Pa.
Alm, A. A., <i>So.</i> H. 5	Austin, J. M., <i>Fr.</i> C. 24
Anderson, E. G., <i>W. Sr.</i> 43 Oldham	Averill, A. A., <i>W. Fr.</i> 118 Cushing
	AYRES, C. E., <i>Gr, Asst.</i> C. 35

- Babington, C. P., *Jr.* H. 38
 Bagnall, C. L., *Sr.* C. 16
 Bahnsen, W., *Fr.* S. 4
 Bailey, J. M., *So.* 19 Creighton
 BAILEY, W. W., *Prof. Emeritus*
 6 Cushing
 Bain, H., *Fr.* 54 Pekin
 Baker, A. W., *Fr.* U. 45
 Baker, B. W., *Jr.* U. 40
 Ballou, F. A., *Jr., So.* 4 Manning
 Bamforth, E. L., *Fr.* 226 Broadway
 Banigan, R. D., *So.* 100 Waterman
 Banks, M. A., *W. Sr.* 197 Colfax
 Bannan, M. F., *W. Jr.*
 313 Prairie Ave.
 BARBOUR, T. S., *Trustee*
 Tremont Temple, Boston, Mass.
 Barlow, N., *Fr.* 16 Paisley, Pawt.
 Barnard, A. E., *Jr.* 65 College
 Barnes, E. E., *Fr.* 234 Camp
 Barnett, L. F., *Jr.* 411 Brook
 Barney, H. C., *So.* 3 Harvard Ave.
 BARR, Miss J. H., *Asst. Cataloguer*
 117 Howell
 Barrett, Miss H. I., *Gr.* 20 Babcock
 Bartlett, A. E., *Sr.* 4 Manning
 Barton, R., *W. Fr.* Centreville
 Baruch, I., *Jr.* M. 317
 BARUS, C., *Prof.; Dean of Graduate*
Dept. 30 Elmgrove Ave.
 BARUS, Mrs. C., *Adv. Council, W.*
 30 Elmgrove Ave.
 Batchelor, H. A., *Fr.* U. 12
 Bates, A. P., *Fr.* U. 54
 BATES, Mrs. L. P., *Keeper of Graduate*
Records Oak Lawn
 Bates, M. C., *W. Sr.* 55 Bainbridge
 BATES, Miss M. E., *Instr. W.*
 118 Cushing
 Batt, Miss L. B., *Gr.*
 87 School, Fall River
 Bauer, L. E., *So.* H. 2
 Baxter, H. S., *W. Sr.* 118 Cushing
 Beachen, A. E., *Sr.*
 456 West Ave., Pawt.
 Bean, S. S., *Sr.* 100 Waterman
 Bearse, G. S., *So.* C. 4
 BEEBE, Miss J. E., *Stenog., Physical*
Dept. 47 George
 Beehan, W. E., *Jr.* C. A.
 BENEDICT, G. W., *Assoc. Prof.*
 16 John
 Benjamin, S., *So.* 13½ Douglas Ave.
 Bennett, Miss M. E., *Gr.*
 102 Wayland Ave.
 Bennett, S. W., *W. So.*
 East Ave., North Providence
 Benson, E. O., *Fr.*
 401 Wellington Ave., Auburn
 Bertram, J. A., *W. Sp.*
 137 Summit, East Providence
 Bethel, H. S., *W. Fr.* 118 Cushing
 Bien, F. S., *Sp.* H. 17
 Binning, H. I., *W. Sp.* 70 Plenty
 Black, E. L., *W. So.* 25 Doyle Ave.
 Black, E. P., *Fr.* West Barrington
 Blackway, C. E., *Sr.* H. 1
 Blaisdell, H. M., *W. Fr.* Arlington
 BLAKE, F. C., *Gr. Asst.* 9 Searle
 Blanchard, R. C., *Fr.* 41 Hudson
 Blanchard, R. L., *Jr.* H. 21
 Blassberg, P., *Fr.* H. 45
 Bliss, H., *Jr.* 4 Manning
 Bliss, M. E., *W. So.* 35 Boylston Ave.
 Bliven, G. F., *Jr.*
 162 Albert Ave., Edgewood
 Blue, E. W., *So.* M. 434
 Boardman, I. T., *Sr.* 112 Ring
 Bodfish, E., *W. Sr.* 118 Cushing
 Bogle, Miss M. L., *Gr.*
 138 Lincoln Ave., Fall River, Mass.
 BOHL, L. T., *Instr.*
 32 Henry St., Edgewood
 Bontecou, F. H., *Fr.* C. 6
 Booth, J. M., *So.* U. 21
 Borden, R. F., *Sr.* 33 Angell

Bosworth, A. D., <i>W. Sr.</i>	209 Point	BROWN, L., <i>Trustee</i>	
Bosworth, E. H., <i>So.</i>	41 George		16 Warren, Norwich, Ct.
Bosworth, M. L., <i>W. Sr.</i>	1374 Eddy	Brown, L. J., <i>W. Sr.</i>	Barrington
Bourn, J. M., <i>W. Jr.</i>	265 Orms	Brown, O. A., <i>Jr.</i>	127 Angell
Bourn, L. E., <i>W. Jr.</i>	265 Orms	Brown, R. B., <i>Sp.</i>	94 Angell
Bowen, E. A., <i>Jr.</i>	H. 23	Brown, S. O., <i>Jr.</i>	City Hospital
Bowen, J. B., <i>Jr.</i>	H. 27	Bryan, Miss A., <i>Gr.</i>	118 Cushing
Bower, J. H., <i>Jr.</i>	108 Waterman	BUCHER, J. E., <i>Assoc. Prof.</i>	Summit
Brackett, E. T., <i>Sr.</i>	127 Angell	Buehler, W. F., <i>Sr.</i>	108 Waterman
Brackett, R. O., <i>So.</i>	127 Angell	Bugbee, E. T., <i>Sr.</i>	41 George
Bradish, S. P., <i>Sp.</i>	Apponaug	BUMPUS, H. C., <i>Fellow</i>	
Brady, C. E., <i>Sr.</i>	82 Lester		Univ. of Wisconsin, Madison, Wis.
Brady, W. A., <i>Gr.</i>	Narragansett Pier	Burdon, M. J., <i>W. Sr.</i>	118 Cushing
Bratcher, M. E., <i>Gr.</i>	M. 320	Burgess, M. M., <i>W. So.</i>	54 Sycamore
Breckenridge, A. E., <i>Fr.</i>	S. 4	BURLINGAME, E. A., <i>Supt. Grounds</i>	
Breckenridge, F. C., <i>Jr.</i>	S. 4		<i>and Buildings</i> 359 Brook
Breckenridge, W. T., <i>Jr.</i>	U. 51	Burnell, R. L., <i>Jr.</i>	65 College
Brice, H. D., <i>Jr.</i>	41 George	Burnham, M. W., <i>Fr.</i>	H. 18
Briggs, D. S., <i>W. Sr.</i>	213 Doyle Ave.	Burnham, W. R., <i>Jr.</i>	H. 18
Briggs, H. H., <i>W. Sr.</i>	213 Doyle Ave.	Burr, H. R., <i>W. So.</i>	54 Lauriston
Briggs, R. E., <i>So.</i>	132 Angell	BURRAGE, H. S., <i>Fellow</i>	Portland, Me.
BRISTOL, L. M., <i>Asst. Prof.</i>		Burt, A. J., <i>So.</i>	35 Howell
	156 Prospect	Burton, H. H., <i>So.</i>	C. 17
Brokenshire, J. R., <i>So.</i>		Burton, N. B., <i>So.</i>	34 Benevolent
	19 Kossuth, Pawt.	Burwell, W. R., <i>Jr.</i>	S. 1
BRONSON, Mrs. M. W., <i>Clerk</i>		Butler, H. A., <i>Fr.</i>	
	11 Benefit		14 Summit Ave., Mansfield, Mass.
BRONSON, W. C., <i>Prof.</i>		Butler, M. R., <i>W. So.</i>	
	140 Morris Ave.		32 Gooding, Pawt.
BROOKS, F. E., <i>Trustee</i>		Butler, W. E., <i>Fr.</i>	312 Public
	Colorado Springs, Col.	Butterweck, H. S., <i>So.</i>	H. 1
BROOKS, J. A., <i>Assoc. Prof.</i>		Buttrick, E. N., <i>W. So.</i>	118 Cushing
	25 Everett Ave.	Butts, A. L., <i>W. So.</i>	
Brower, L. W., <i>So.</i>	H. 20		179 Elmgrove Ave.
Brown, B. H., <i>Fr.</i>	U. 54	Byam, S. G., <i>So.</i>	H. 26
BROWN, C. W., <i>Assoc. Prof.</i>	37 Barnes		
Brown, E. K., <i>Sr.</i>	U. 47	CADY, H. D., <i>Sp. Instr.</i>	U. 2
Brown, E. L., <i>Fr.</i>	U. 44	Cahoon, J. S., <i>W. Fr.</i>	125 Governor
Brown, H. A., <i>Sr.</i>	260 Benefit	Cairns, G. J. A., <i>So.</i>	
Brown, H. A., <i>Fr.</i>	384 Benefit		680 Chalkstone Ave.
Brown, J. F., <i>Fr.</i>	H. 4	Caldarone, A. A., <i>Fr.</i>	
Brown, J. R., <i>So.</i>	221 Thayer		193 Atwells Ave.
Brown, J. R., <i>Fr.</i>	S. 17	Cambio, F. C., <i>Fr.</i>	22 Africa

Cameron, W. C., *Gr.* 954 Park, Auburn
 Campbell, E. R., *Jr.* H. 8
 Campbell, L. B., *Jr.* H. 27
 Canada, K., *W. Jr.* 166 Whittier Ave.
 Capelli, L. W., *So.* 69 Vinton
 CAPRON, Miss B. G., *Sec'y to Dean, W.*,
 24 Bellevue Ave.

CAPRON, Miss F. E., *Sec'y to Dean*
 24 Bellevue Ave.

Caputi, A., *Fr.* 89 America
 Cargill, Miss R. L., *Gr.* 183 Pearl
 CARLBORG, Miss E. M. L., *Special Cat-*
aloguer 124 Atlantic Ave.

Carlson, J. R., *Jr.* 94 Angell
 Carpenter, G. C., *Fr.* 233 Medway
 Carpenter, H. A., *Fr.* U. 22
 Carr, M. E., *W. Fr.* 125 Governor
 Carroll, Miss A. S., *Gr.* 9 Dana
 Carroll, C., *Gr.* 79 Linwood Ave.

Carter, R. B., *Fr.* 41 George
 Cartwright, P., *Fr.* U. 33
 Casey, E. R., *Fr.* S. 7
 Cashman, J. J., *So.* C. A.
 CASWELL, R. G., *Gr. Instr.* C. 35
 Cate, A. W., *Sr. Gr.* 386 Lloyd Ave.
 Cederberg, C. A., *Sp.*

The High School, Pawt.

CHACE, A. B., *Trustee and Chancellor*
 324 Angell

Chace, E. E., *W. Fr.*
 51 Main, Pawtucket

CHACE, J., *Trustee* Valley Falls

Chadwick, P. M., *Fr.* U. 1
 Champlin, W. R., *Sp.* 132 Benefit

Champney, H. H., *Sr.* M. 322
 Chandler, T., *Jr.* 100 Waterman

Chandler, W. R., *Jr., Fr.* C. 30
 Chandler, W. W., *Jr.* 4 Cushing

Chapman, M. M., *W. Sr.* 129 Moore
 Chappell, W. A., *Sr.* H. 2

CHASE, P. P., *University Physician*
 62 College
 Chase, W. C., *So.* 65 College

Chen, C. C., *Jr.* M. 313
 Christie, R. A., *Sp.* 97 Lancaster

Church, Miss M. B., *Gr.*
 292 Wayland Ave.

Church, Miss M. D., *Gr.* Bristol
 CLARK, T., *Asst. Registrar*

152 Congdon

Cleare, W. M., *Fr.* M. 428

Cleaveland, E. R., *Sr.* B. 12

Clegg, C. M., *Jr.* 54 College

Clifford, S., *So.* No. S.

CLOUGH, B. C., *Gr. Asst.* 2 Angell

Close, L. E., *Fr.* C. 14

Cockroft, G. A., *W. Sr.* 118 Cushing

Coffin, A. B., *W. Jr.* 125 Governor

Cohen, H. L., *So.* 96 W. Clifford

Cohen, H. L., *W. Fr.* 125 Governor

COLBY, E., *Trustee*
 Llewellyn Park, Orange, N. J.

COLBY, G., *Trustee*
 132 Harrison, East Orange, N. J.

Coleman, J. S., *So.* 240 Brown

Collette, A. E., *W. Fr.* 125 Governor

COLLIER, T. F., *Assoc. Prof.*
 116 Governor

COLLINS, A. C., *Trustee*
 Great Barrington, Mass.

COLLINS, G. L., *Trustee* 223 Benefit

COLVIN, S. S., *Prof.* 146 Taber Ave.

Colwell, R. C., *Gr.* 127 Angell

COMBE, Miss H. A., *Special Cataloguer*
 59 Keene

Conover, F. W., *Fr.* M. 315

Cook, A. N., *Sr.* 81 Waterman

Cook, E. C., *W. So.* 118 Cushing

Cook, E. P., *Sr.* 65 College

Cook, J. E., *Sr.* U. 17

Cook, J. W., *W. Sr.* 125 Governor

Cooke, M. A., *W. Sp.* 45 Arch

Cooke, R. E., *W. Sr.* 45 Arch

Coop, A. B., *So.* 108 Waterman

Coop, J. B. T., *Sp.*
 62 Rochambeau Ave.

Cooper, L. L., *W. Jr.* Attleboro, Mass.
 Cooper, W. A., *Fr.* Attleboro, Mass.
 Copeland, G., *Fr.* 3 Apley Court
 Copeland, R. E., *Jr.* 94 Angell
 Corcoran, E. J., *Jr.* C. 9
 Corcoran, E. P., *So.*
 10 Homewood Ave.
 Corey, M. F., *W. So.* 11 French, Pawt.
 Corkum, H. D., *Fr.* H. 15
 Corp, C. F., *Jr.* 94 Angell
 Cotton, M., *W. Fr.* 118 Cushing
 Couse, J. M., *So.* 94 Angell
 Cram, R. W., *Jr.* H. 44
 Cristy, E. I., *So.* 102 Wayland Ave.
 Crocker, F. B., *Jr.* B. 2
 Crolius, W. C., *Jr., Jr.* No. S.
 Cremack, B. M., *Fr.* H. 45
 Crompton, E. L., *W. Jr.* Y. W. C. A.
 Crooker, H. L., *W. Jr.* 118 Cushing
 Crooks, M., *W. Sr.* 118 Cushing
 Crosby, T., *Assoc. Prof.* 49 George
 Cross, C. M. P., *Jr.* 265 Doyle Ave.
 Cross, H., *Asst. Prof.* 98 Cushing
 Crotty, R. E., *Fr.* H. 35
 CROWELL, A. C., *Assoc. Prof.*
 66 Oriole Ave.
 Crowell, M. J., *Jr.* 100 Waterman
 Culver, S. E., *Jr.* H. 40
 Cumerford, G. B., *So.*
 1291 Chalkstone Ave.
 Cummings, J. L., *Sr.* C. 33
 Currie, G. E., *W. Jr.*
 12 Holden, Attleboro, Mass.
 CURRIER, C. H., *Instr.*
 311 Wayland Ave.
 Currier, C. W. G., *Jr.* 94 Angell
 Curry, K. E., *W. Sr.* Longmeadow
 Curtis, G. D., *So.* C. 17
 Curtis, P. O., *Jr.* C. 3
 Cushing, E. W., *W. So.*
 109 Smithfield Road
 Cushing, H. L., *Sr.* H. 2
 Cutler, M. E., *W. Sr.* 6 Brook, Pawt.

Dale, G. W., *Sp.* 44 Ruggles
 DAMON, L. T., *Prof.* The Minden
 Damon, S. R., *So.* 127 Angell
 Daniels, H. A., *W. Jr.* 119 Thayer
 Daniels, R. J., *So.*
 19 Harris, Riverside
 DANIELSON, Miss F. H., *Instr. W.*
 118 Cushing
 Davenport, E. F., *So.* H. 48
 David, R. E., *Sp.*
 846 Second, Fall River, Mass.
 DAVIS, B. N., *W. Director of Chapel*
Music 8 Hamilton
 Davis, C. A., *Sr.* H. 1
 Davis, E. C., *W. So.* Chepachet
 Davis, F., *Jr.* 100 Waterman
 Davis, F. W., *Fr.* H. 43
 Davis, H. M., *So.* 39 Quaid
 DAVIS, N. F., *Prof.* 159 Brown
 Day, Miss A. M., *Gr.* 216 Medway
 Day, C. H., *Fr.* H. 35
 De Nommé, A. J., *Fr.* Arctic
 De Nommé, L. A., *So.* Arctic
 Dealeay, H. L., *W. Sr.* 872 Hope
 DEALEY, J. Q., *Prof.* 872 Hope
 Deckard, W. W., *Gr.* Arlington
 DELABARRE, E. B., *Prof.*
 9 Arlington Ave.
 Delano, E. R., *Sr.* 313 Washington
 Denham, H. G., *Jr.* H. 40
 Denison, R. T., *Fr.* H. 6
 Devine, M. F., *W. Sr.* 118 Cushing
 Di Leone, R., *Sp.* 334 Atwells Ave.
 Dick, W. H., *So.* C. 34
 Dike, D., *So.* 54 College
 Dillon, A. S., *Fr.* 54 College
 Dimmick, T., *Fr.* C. 25
 Dixon, L. H., *Fr.* M. 316
 DORMAN, W. R., *Trustee*
 48 Wall, New York, N. Y.
 Dougherty, I. C., *W. So.*
 195 Morris Ave.
 Douglas, B., *W. Sr.* 118 Cushing

Douglas, H. G., *W. So.* 118 Cushing
DOUGLASS, W. W., *Trustee*

107 Prospect

Dow, H. E., *So.* 41 George

DOWELL, Miss N. E., *Gr. Asst.*

169 Fifth

DOYLE, Miss S. E., *Adv. Council, W.*

119 Prospect

Drake, H. F., *Jr.* H. 14

Dresser, R., *So.* C. 32

Dubuque, Miss M., *Gr.*

263 Walnut, Fall River, Mass.

Dugan, P. F., *Sr.* 110 Waterman

Duguid, S. J., *W. So.* 125 Governor

Dukette, E. R., *Sr.* 41 George

Duncan, N. L., *Jr.* 100 Waterman

Dunn, J. B., *So.* 65 College

DUNNING, J. C., *Asst. Prof.*

45 Waterman

Durfee, E. C., *Sr.* 1057 Cranston

Durgin, A. D., *Sr.* 81 Waterman

Dursin, H., *Jr., So.* C. 15

Dwyer, F. M., *So.* C. A.

Eames, A. G., *So.* 108 George

Easton, F. W., *Jr., Sr.* No. S.

Eastwood, W. R., *Gr.*

354 Manton Ave.

Eaton, H. T., *So.* No. S.

Eayrs, E., *So.* 220 Camp

Eddy, J. L., *So.* 52 Taber

Edinger, M. L., *Jr.* 108 Waterman

Edwards, E. V., *W. So.*

136 West Clifford

EDWARDS, J., *Asst. Ladd Obs.*

210 Doyle Ave.

EDWARDS, S. O., *Trustee*

181 Lloyd Ave.

Eicke, W. H., *Jr.* H. 38

Eisenberg, D., *Fr.* 15 Humes, Pawt.

Ekstrom, C. E., *So.* 70 Seaman

Ellis, N. F., *W. So.* Apponaug

Ely, J. T. A., *Fr.* Narragansett Hotel

Emerson, Miss H., *Gr.*

162 Blackstone Boulevard

Emery, E. H., *Jr.* 110 Waterman

Emmons, H. E., *Jr., Jr.* 94 Angell

ENGLISH, J. M., *Trustee*

Newton Centre, Mass.

Evans, M. G., *W. So.* 20 Hammond

Everett, E. I., *Sr.* 13 Benevolent

EVERETT, W. G., *Prof.*

83 University Ave.

Everingham, C. D., *Jr.* 94 Angell

Fairchild, A. W., *So.* 19 Creighton

Falk, E. H., *Jr.* 100 Waterman

Farlee, H. J., *So.* M. 431

Farnham, F. A., *So.* 71 Barnes

Farnham, J. H., *Sr.* 71 Barnes

Farnsworth, W. B., *Sp.* 42 Tobey

FARNUM, Miss E. E., *Copyist*

Eden Park

Farnum, M., *Fr.* Georgiaville

Farnum, M. M., *W. Jr.* 118 Cushing

FAUNCE, W. H. P., *President* 180 Hope

Faust, L. M., *W. So.*

102 Princess Ave., Cranston

Fay, S. F., *Sp.* H. 17

Feinberg, B. D., *Fr.* 71 Charles Field

Feiner, P. A., *So.* 14 Star

Feinstein, H., *So.* 106 Olney

Feitelberg, A., *Sr.* M. 317

Ferguson, E. V., *W. Fr.*

57 Arlington Ave.

FERGUSON, J. B., *Dem'r* 369 Broad

Ferguson, W. W., *So.* 100 Waterman

Fernald, J. G., *Fr.* H. 34

Ferris, F. L., *So.* 65 College

Field, C. C., *So.* 94 Angell

FIELD, R. F., *Instr.* 25 Wilson

Files, C. A., *Sr.* 108 Waterman

Finch, A. B., *Fr.* 27 Whitmarsh

Fishel, N. L., *Fr.* H. 31

Fitts, H., *Fr.* C. 14

Flagg, M. M., *W. Sr.* 118 Cushing

Flaherty, A. M., *W. Sr.*
28 John, Valley Falls
Flanders, K. A., *Fr.* 109 Ohio Ave.
Flather, M. D., *W. Fr.* 216 Hope
Flinn, H. B., *So.* 127 Angell
Flint, A. H., Jr., *Fr.* Bristol
Foote, H. E., *Sr. Gr.* C. 23
Ford, T. R., *So.* 41 George
Forward, M. K., *Sr.* 110 Waterman
Foss, S. W., *Sr.* 110 Waterman
Foulkes, C. T., *W. Jr.*
23 Summit Ave., Mansfield, Mass.
FOWLER, H. T., *Prof.* 127 Lloyd Ave.
Fraga, J. J., *So.* 101 Transit
Fraser, I., *Fr.* 223 Cass
Frauenheim, W. G., *Fr.* C. 31
Frost, F. B., *Jr.* 81 Waterman
Fuller, J. O., *Fr.* 283 Brook
Fuller, O. A., *Fr.* 283 Brook
Gallagher, S. N., *W. So.*
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Gallant, R. B., *Jr.* 94 Angell
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Gallup, W. L., *Jr.* U. 51
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Gilliland, H. A., *W. Sr.* 118 Cushing
Gillis, R. A., *Sr.* H. 25

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 Lyons, S. H., *So.* C. 18
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 McCarthy, R. L., *Sp.* 198 Power
 McClory, T. P., *Fr.* C. 27
 McCrone, H. B., *Jr.* 24 George
 MACDONALD, W., *Prof.* 132 George
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 McDuff, F. E., *Sr.* C. 33
 McGinn, J. J., *So.* C. 33

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- MANNING, H. P., *Assoc. Prof.*
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- Marble, R. L., *So.* 127 Angell
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- Mason, M. C., *Sr.* H. 25
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- Mitchell, S. K., *Jr.* 94 Angell
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PLAN OF THE PRINCIPAL
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OF
BROWN UNIVERSITY

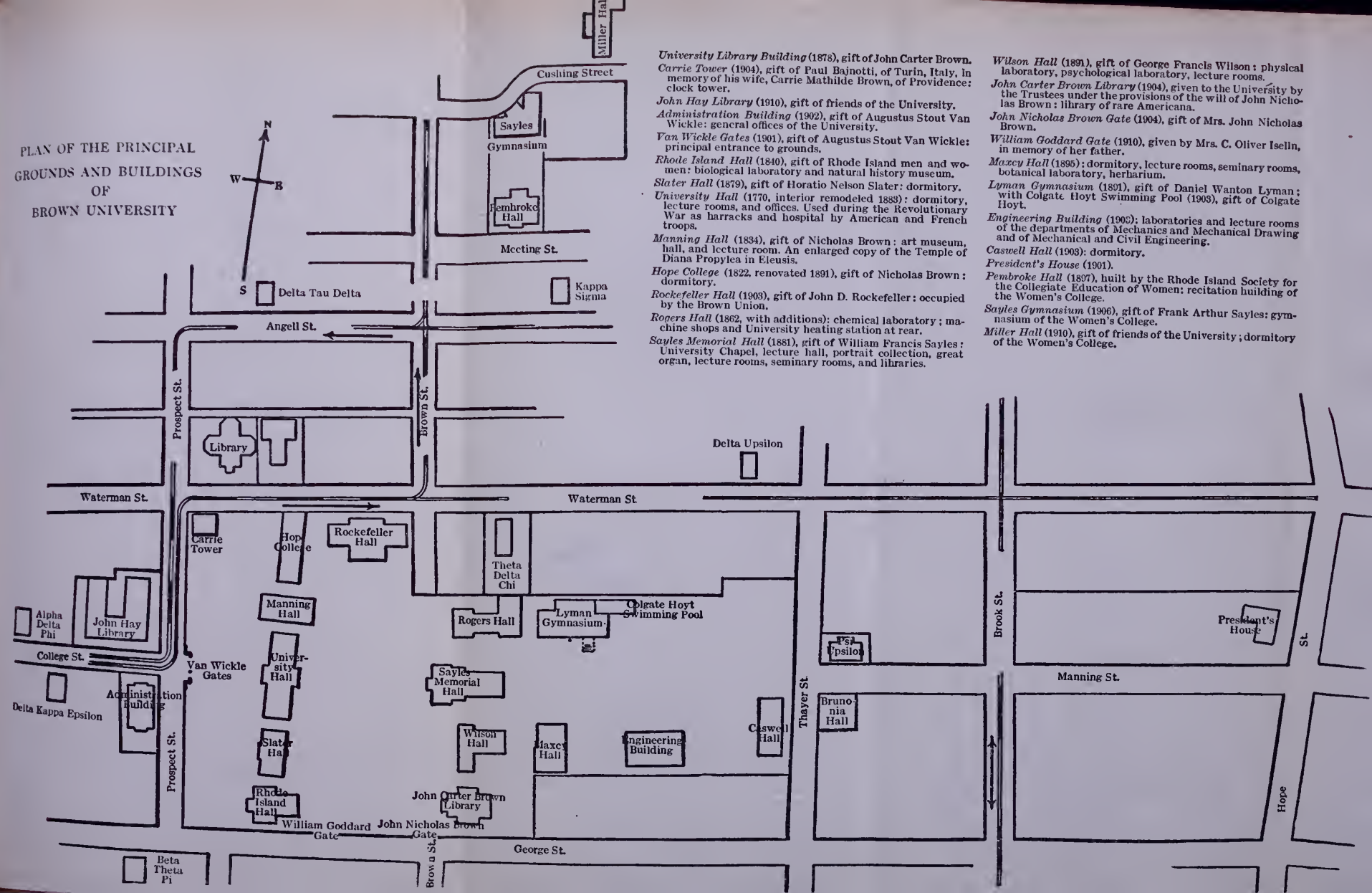


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PLAN OF THE PRINCIPAL
GROUNDS AND BUILDINGS
OF
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University Library Building (1878), gift of John Carter Brown. *Carrie Tower* (1904), gift of Paul Bajnotti, of Turin, Italy, in memory of his wife, Carrie Mathilde Brown, of Providence: clock tower.

John Hay Library (1910), gift of friends of the University. *Administration Building* (1902), gift of Augustus Stout Van Wickles: general offices of the University.

Van Wickles Gates (1901), gift of Augustus Stout Van Wickles: principal entrance to grounds.

Rhode Island Hall (1840), gift of Rhode Island men and women: biological laboratory and natural history museum.

Slater Hall (1879), gift of Horatio Nelson Slater: dormitory. *University Hall* (1770, interior remodeled 1883): dormitory, lecture rooms, and offices. Used during the Revolutionary War as barracks and hospital by American and French troops.

Manning Hall (1834), gift of Nicholas Brown: art museum, hall, and lecture room. An enlarged copy of the Temple of Diana Propylea in Eleusis.

Hope College (1822, renovated 1891), gift of Nicholas Brown: dormitory.

Rockefeller Hall (1903), gift of John D. Rockefeller: occupied by the Brown Union.

Rogers Hall (1862, with additions): chemical laboratory; machine shops and University heating station at rear.

Sayles Memorial Hall (1881), gift of William Francis Sayles: University Chapel, lecture hall, portrait collection, great organ, lecture rooms, seminary rooms, and libraries.

Wilson Hall (1891), gift of George Francis Wilson: physical laboratory, psychological laboratory, lecture rooms.

John Carter Brown Library (1904), given to the University by the Trustees under the provisions of the will of John Nicholas Brown: library of rare Americana.

John Nicholas Brown Gate (1904), gift of Mrs. John Nicholas Brown.

William Goddard Gate (1910), given by Mrs. C. Oliver Iselin, in memory of her father.

Maxcy Hall (1895): dormitory, lecture rooms, seminary rooms, botanical laboratory, herbarium.

Lyman Gymnasium (1891), gift of Daniel Warton Lyman; with Colgate Hoyt Swimming Pool (1903), gift of Colgate Hoyt.

Engineering Building (1905): laboratories and lecture rooms of the departments of Mechanics and Mechanical Drawing and of Mechanical and Civil Engineering.

Caswell Hall (1903): dormitory.

President's House (1901).

Pembroke Hall (1897), built by the Rhode Island Society for the Collegiate Education of Women: recitation building of the Women's College.

Sayles Gymnasium (1906), gift of Frank Arthur Sayles: gymnasium of the Women's College.

Miller Hall (1910), gift of friends of the University; dormitory of the Women's College.

All gifts, legacies, and bequests for any department of the University or any phase of its work should be made payable to "Brown University, in Providence, in the State of Rhode Island and Providence Plantations."

VOL. XI

DECEMBER, 1914

NO. 5

BULLETIN OF BROWN UNIVERSITY

THE CATALOGUE

1914-1915

U. OF B. SUP
1914



PROVIDENCE
PUBLISHED BY THE UNIVERSITY

[APRIL, MAY, JUNE, OCTOBER, DECEMBER]

CORRESPONDENCE

Correspondence addressed simply to Brown University, Providence, Rhode Island, may be expected to reach the proper department, but in order to avoid delay correspondents are requested to note the following directions:

Communications relating to matters directly in the charge of the Corporation, and all correspondence bearing upon the general interests of the University, should be addressed to the President.

Requests for the Annual Catalogue and other publications, and inquiries relating to the admission of Undergraduate students, should be addressed to the Registrar.

Inquiries concerning scholarships should be addressed to the Secretary of the Committee on Scholarships.

Inquiries concerning other matters pertaining to Undergraduate students should be addressed to the Dean of the University.

Inquiries in regard to the Graduate Department should be addressed to the Dean of the Graduate Department.

Inquiries concerning the Women's College should be addressed to the Dean of the Women's College, Pembroke Hall.

Inquiries or information concerning Alumni should be sent to the Keeper of Graduate Records, University Library.

THE CATALOGUE
OF
BROWN UNIVERSITY

ONE HUNDRED AND FIFTY-FIRST YEAR

1914-1915



PROVIDENCE, RHODE ISLAND
PUBLISHED BY THE UNIVERSITY

1914

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THE
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MOUNT PRESS

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CALENDAR 1914-1915

Vacations and Holidays occurring within the Academic Year 1914-15 are indicated by dark type.

1914	1915	1915
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THE UNIVERSITY CALENDAR 1914-15

1914

- SEPTEMBER 2. *Wednesday.* Annual Meeting of the Corporation (first Wednesday in September).
- SEPTEMBER 15-21. *Tuesday to Monday inclusive.* Examinations for admission to the Freshman class and to advanced standing.
- SEPTEMBER 21, 22. *Monday and Tuesday.* Registration of new students and enrolment of students previously in residence.
- SEPTEMBER 23. *Wednesday, 9 a.m.* ACADEMIC YEAR BEGINS (fourth Wednesday in September). Registration of Graduate students.
- OCTOBER 7. *Wednesday.* Examination in Greek for the President's Premiums, 5 Maxcy Hall, 2.30 p.m.
- OCTOBER 14. *Wednesday.* Examination in Latin for the President's Premiums, 1 Sayles Hall, 2.30 p.m.
- OCTOBER 21. *Wednesday.* Examination in Mathematics for the Hartshorn Premiums, 26 Wilson Hall, 2 p.m.
- OCTOBER 28. *Wednesday.* Examination in French for the Hicks Premiums, 1 Sayles Hall, 2.30 p.m.
- NOVEMBER 4. *Wednesday.* Examination in German for the Caesar Misch Premiums, 5 Sayles Hall, 2.30 p.m.
- NOVEMBER 26. *Thursday.* Thanksgiving Day. No University exercises.
- DECEMBER 1. *Tuesday.* Last day for receiving applications for examinations in entrance conditions.
- DECEMBER 2. *Wednesday.* Preliminary discussion for the Class of 1880 Prizes.
- DECEMBER 4. *Friday.* Last day for receiving essays submitted in competition for the Class of 1880 Prizes.
- DECEMBER 9. *Wednesday.* Public discussion for the Class of 1880 Prizes.

DECEMBER 23.	<i>Wednesday</i> , 12.20 p.m. CHRISTMAS RECESS BEGINS.
1915	
JANUARY 4.	<i>Monday</i> . CHRISTMAS RECESS ENDS.
JANUARY 5.	<i>Tuesday</i> , 8 a.m. Recitations begin.
JAN. 25 to FEB. 5.	<i>Monday to Friday inclusive</i> . Semester examinations.
FEBRUARY 1.	<i>Monday</i> . Last day for applications of competitors for the Carpenter Prizes in Elocution.
FEBRUARY 6-9.	<i>Saturday to Tuesday inclusive</i> . MID-YEAR RECESS.
FEBRUARY 8, 9.	<i>Monday and Tuesday</i> . Enrolment of Undergraduate students.
FEBRUARY 10.	<i>Wednesday</i> , 8 a.m. SECOND SEMESTER BEGINS. Enrolment of Graduate students.
FEBRUARY 22.	<i>Monday</i> . Washington's Birthday. No University exercises.
MARCH 1.	<i>Monday</i> . Last day for applications of competitors for the Bishop McVickar Prizes.
MARCH 24.	<i>Wednesday</i> . Last day for receiving essays submitted in competition for the Gaston Prize Medal.
APRIL 1.	<i>Thursday</i> . Last day for receiving applications for examination for the degree of Doctor of Philosophy, or of Master of Arts <i>in absentia</i> .
APRIL 1-7.	<i>Thursday to Wednesday inclusive</i> . SPRING RECESS.
APRIL 8.	<i>Thursday</i> , 8 a.m. Recitations begin.
APRIL 15.	<i>Thursday</i> . Last day for receiving applications for the Grand Army of the Republic Fellowship.
APRIL 27.	<i>Tuesday</i> . Carpenter Prize Speaking Competition.
APRIL 30.	<i>Friday</i> . Last day for receiving theses of candidates for the degree of Doctor of Philosophy.
MAY 1.	<i>Saturday</i> . Last day for receiving essays submitted in competition for the Bishop McVickar Prizes.

- MAY 5. *Wednesday.* Examination in Greek for the Foster Premium.
- MAY 11. *Tuesday.* Gaston Prize Medal Competition.
- MAY 18. *Tuesday.* Hicks Prize Debate.
- MAY 19. *Wednesday.* Last day for receiving essays submitted in competition for the Society of Colonial Dames Prize.
Examination in Latin for the Lucius Lyon Premiums.
- MAY 29. *Saturday.* Last day for examinations for advanced degrees.
- MAY 29 to JUNE 11. *Saturday to Friday inclusive.* Semester examinations.
- MAY 31. *Monday.* Observed as Memorial Day. No University exercises.
- JUNE 1. *Tuesday.* Last day for receiving essays submitted in competition for the Class of '73 Prize.
- JUNE 13. *Sunday.* Baccalaureate Sermon, First Baptist Meeting House, 4.30 p.m.
- JUNE 14. *Monday.* Class Day.
- JUNE 15. *Tuesday.* Annual Meeting of the Phi Beta Kappa Society, Administration Building, 9.30 a.m.
Ivy Day, Pembroke Hall.
Annual Meeting of the Associated Alumni, Lyman Gymnasium, 6.30 p.m.
- JUNE 16. *Wednesday.* ONE HUNDRED AND FORTY-SEVENTH ANNUAL COMMENCEMENT (third Wednesday in June), First Baptist Meeting House, 10 a.m.
- JUNE 17. *Thursday.* Meeting of the Corporation.
- JUNE 17 to SEPT. 21. SUMMER VACATION.
- SEPTEMBER 1. *Wednesday.* Annual Meeting of the Corporation (first Wednesday in September).
- SEPTEMBER 14-20. *Tuesday to Monday inclusive.* Examinations for

BROWN UNIVERSITY

admission to the Freshman class and to advanced standing.

SEPTEMBER 20, 21. *Monday and Tuesday.* Registration of new students and enrolment of students previously in residence.

SEPTEMBER 22. *Wednesday, 9 a.m.* ACADEMIC YEAR BEGINS (fourth Wednesday in September).

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† Deceased.

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HISTORY OF BROWN UNIVERSITY

BROWN UNIVERSITY, first called Rhode Island College, was founded in 1764. The project originated among the leaders in the Philadelphia Baptist Association, who chose the colony of Rhode Island as the most suitable place, and in 1763 sent James Manning, a recent graduate of New Jersey College, to confer with the Baptists in Newport. Conditions in the colony were ripe for the establishment of an institution of learning on broad lines. The spirit of religious liberty still prevailed in the commonwealth founded by Roger Williams; commerce on land and sea was a growing source of wealth; and a considerable degree of culture existed, especially in Newport, then a thriving seaport and the home of many men of wide intellectual interests. Indeed, some of its leading citizens, including Ezra Stiles, later president of Yale College, had been considering plans for a college a year or two before Manning's visit, and the proposal of the Philadelphia Baptists won quick and hearty support. A charter, drawn up by Mr. Stiles and William Ellery (a signer of the Declaration of Independence), and amended by the Baptists, was granted by the legislature in 1764. It provided that twenty-two of the thirty-six trustees should be Baptists, five Quakers, four Congregationalists, and five Episcopalians; that eight of the twelve fellows should be Baptists, and the rest of any denominations; that the president should be a Baptist, but that the other members of the Faculty might be of any Protestant faith. Especially noteworthy are the following provisions: "Into this Liberal & Catholic Institution shall never be admitted any Religious Tests but on the Contrary all the Members hereof shall for ever enjoy full free Absolute and uninterrupted Liberty of Conscience"; and "the Sectarian differences of opinions, shall not make any Part of the Public and Classical Instruction."

The first meeting of the Corporation was held at Newport, in September, 1764, when Governor Stephen Hopkins, a Quaker, was chosen chancellor. A year later James Manning, who had become pastor of the Baptist church in Warren and had opened a Latin school, was appointed "President of the College, Professor of Languages and other Branches of Learning with full Power to act in those Capacities at Warren or elsewhere." The first student had been matriculated the day before; for nearly a year he was the only student. David

Howell, a graduate of New Jersey College, was engaged as tutor in 1766, and in 1769 was made professor of natural philosophy. At the first Commencement, in 1769, a class of seven graduated. In 1770 the College moved to Providence, a growing town of four thousand inhabitants, which had subscribed about \$15,000 for an endowment; some \$6000 had also been collected in Great Britain and among the Baptists of the Southern States. A site of eight acres on College Hill was bought for \$730; and University Hall, modelled on Nassau Hall at Princeton, and a house for the president were built in 1770-71. In 1775 the Baptist church, of which Manning had become pastor, erected a new meeting-house, "for the publick Worship of Almighty GOD; and also for holding Commencement in." From December, 1776, to May, 1782, the College building was used as barracks and hospital by American and French troops, and College exercises were suspended. Twenty-three of the sixty-seven graduates rendered active service on the patriot side during the Revolution. After the war the College began slowly to grow again. The students, who had numbered about forty in 1776, increased to seventy-two by 1789, and in 1790 a class of twenty-two graduated. Most of the instruction was given by the president and two or three tutors; but professorships without stipend were established in natural philosophy, natural history, mathematics and astronomy, and law. The library had two thousand volumes.

President Manning died in 1791. The success of the College during its first quarter-century was due largely to his ability as organizer, teacher, and orator. His discipline was paternal but strict. Students were visited daily in their rooms by the tutors, and most of them boarded in the College commons; all were required to attend chapel twice a day. The course of study, like the regimen, was based upon that at the College of New Jersey. The requirements for admission were a knowledge of Cicero, Virgil, the Greek Testament, and arithmetic, and ability to write "true Latin." In College the chief studies were Latin, Greek, mathematics, logic, philosophy, history, and oratory; most of these were not carried far, but the instruction in oratory was prolonged and thorough. Of the 165 graduates under Manning, 43 became ministers (26 Congregationalists, 12 Baptists), 29 lawyers, 19 physicians, and 48 entered public life.

Jonathan Maxcy, of the class of 1787, was the second president, and served until 1802, when he resigned to become president of Union College. He was a brilliant teacher and orator, but did not excel as

an administrator. There was little growth in the endowment under him, and no essential change in the course of study. The students increased to somewhat over one hundred. Of the 227 graduates, 66 became lawyers, 56 clergymen (34 Congregationalists, 11 Baptists), 36 teachers or professors, 17 judges, and 13 Congressmen. The most distinguished name is that of Henry Wheaton, of the class of 1802, minister to Prussia and authority on international law.

Asa Messer, of the class of 1790, who had been a member of the Faculty for eleven years, succeeded to the presidency. The name of the institution was changed to Brown University in 1804, in recognition of Nicholas Brown's gift of \$5000 to endow a chair of oratory and belles-lettres. A Medical School was established in 1811: local physicians gave short courses of lectures, which the candidates for a medical degree must attend for two years, besides studying three years with a reputable practitioner. The school lasted until 1828, and graduated eighty-seven men, several of whom attained eminence in their profession. By 1822 the students in the academic course had increased to one hundred and fifty-two; an additional dormitory was needed, and Hope College, named for Mr. Brown's sister, was therefore built by him in 1823. In 1825 the graduating class numbered forty-eight. Tuition, which had been \$12 under Manning and \$16 under Maxcy, was raised to \$20 in 1822; but the productive funds were only \$15,578 in 1824. The Faculty in 1825 consisted of the president, nine professors (four of whom were merely lecturers in the Medical School), and two tutors. The College library contained about five thousand volumes in 1826, when a catalogue was published; and the libraries of the Philermenian Society and the United Brothers, two student debating societies, comprised nearly three thousand more. The institution was still emphatically a poor man's college. The long vacation was placed in the winter, that students might teach school, and in the catalogue of 1825-26 is the statement, "Tuition, Library, Room Rent, and Board, less than \$100 per annum." The graduates in the regular course under President Messer numbered six hundred and ninety-three, nearly twice as many as under Manning and Maxcy. The most notable names among many distinguished in professional and public life are Horace Mann, who remodelled public-school education in America, Adoniram Judson, missionary to Burma, Samuel G. Howe, the teacher of Laura Bridgman, and William L. Marcy, Secretary of State.

President Messer's later years were disturbed by serious disorders

among the students and by opposition to his theological views, and he resigned in 1826. His successor was Francis Wayland, a graduate of Union College, where he taught for several years, and a prominent Baptist clergyman. His powerful personality soon raised the University to a higher level. He tightened the reins of government, and quickened the intellectual life. The Medical School was cut off, in order that all the resources might be concentrated upon the academic course. Entrance requirements were somewhat raised. The curriculum was much enriched, especially in the classics, mathematics, and natural sciences, and political economy was added. In several departments lectures supplemented the text-book. Prizes for excellence in examinations and for essays were established. A fund of \$25,000 for the library was secured. The general endowment in 1841 was only \$32,300; but tuition, which was now \$36, brought in a considerable income. Manning Hall was built by Mr. Brown in 1835 as a chapel and library. Rhode Island Hall was erected in 1840 for the use of the departments of natural science, chiefly with funds subscribed by citizens of the state; and in the same year Mr. Brown built a new house for the president. At his death, in 1841, Mr. Brown left bequests which swelled his total gifts to the University to nearly \$160,000. A chapter of the Phi Beta Kappa Society was established in 1830, and the first Greek-letter fraternity for undergraduates in 1836. An Alumni Association was organized in 1842. *The Brunonian*, an undergraduate magazine, was published during 1829-31.

President Wayland's study of English universities, in 1840, had made him dissatisfied with American collegiate methods; the steady decline in numbers for several years (from 196 in 1836 to 152 in 1849) confirmed his belief that something was radically wrong; and in 1850 he launched his so-called New System, which had been in part anticipated at Harvard University and the University of Virginia. The plan comprised three main features: 1. An elective system, by which "every student might study what he chose, all that he chose, and nothing but what he chose"; 2. The development of courses in applied science, as an aid to agriculture and manufactures; 3. A new system of degrees, the degree of Master of Arts to be granted after four years of study, that of Bachelor of Arts after three years, and a new degree, Bachelor of Philosophy, to be given at the completion of a three-year course in scientific and English studies, with very low requirements for admission. A fund of \$125,000 was raised to put the New System into effect. The results were disap-

pointing. Only a narrow range of electives was possible, for the total number of courses was still small; the courses in applied science were limited to chemistry and civil engineering, and even for these there was not much demand; and the new system of degrees did not bring great increase in the number of students, while the quality was poorer. Yet the New System, in its best features, showed remarkable prevision of the direction that university education was soon to take.

President Wayland resigned in 1855, because of failing health. His successor was Barnas Sears, of the class of 1825, a very scholarly man, who had been president of Newton Theological Institution and secretary of the Massachusetts Board of Education. He restored the degrees of Master of Arts and Bachelor of Arts to their former footing, but retained the course for the degree of Bachelor of Philosophy and the courses in applied science. In spite of the Civil War the endowment increased from \$203,000 to \$327,000, and thirty-six scholarships of \$1000 each were founded; in 1863 the Chemical Laboratory was built. Tuition was raised to \$50 in 1864. Class Day was instituted in 1856; football, baseball, and boating developed; and at the outbreak of the Civil War a military company was formed. Of two hundred and seventy-eight men graduating during the war, one hundred and thirty-two enlisted in the army. Notable names among the graduates during this administration are those of two Secretaries of State, Richard Olney and John Hay. President Sears resigned in 1867, to become agent of the Peabody Fund for education in the South.

Alexis Caswell, of the class of 1822, who had resigned his professorship in 1864, was recalled as president in 1868, Professor George Ide Chace having served as president *ad interim* since the retirement of President Sears. During President Caswell's short term of office the productive funds were increased to \$602,000, and the chairs of physics and chemistry were endowed. In spite of an advance in tuition to \$75, the number of students somewhat increased, and the athletic and social side of undergraduate life received more and more emphasis. The Alumni Association was resuscitated in 1868, and local associations were formed in New York, Philadelphia, and Boston during the next two years. In 1870 the time of Commencement, which had always been in September except for two years under President Wayland, was changed to June.

President Caswell retired in 1872, and was succeeded by Ezekiel G. Robinson, of the class of 1838, president of Rochester Theologi-

cal Seminary. During his administration the University made great progress. Rhode Island Hall was enlarged in 1874, to accommodate the growing departments of natural science. The library, which had long outgrown its quarters in Manning Hall, was housed in a beautiful new building erected in 1878 with a bequest of John Carter Brown. Slater Hall, a dormitory, was built in 1879 by Horatio N. Slater. Sayles Hall, given by William F. Sayles in memory of his son, and containing class-rooms and a large auditorium, was completed in 1881. In 1883 University Hall was renovated. A physics laboratory, named Wilson Hall in honor of George F. Wilson, who left a bequest for it, was begun in 1889. Funds for the Lyman Gymnasium were given by Daniel W. Lyman in 1887, and for the Ladd Observatory by Herbert W. Ladd in 1889. The chair of natural history and botany was endowed by a bequest of Stephen T. Olney in 1878, and in 1884 the Metcalf Botanical Garden was given to the University by the widow of Whiting Metcalf. The productive funds were increased to \$1,000,000. The requirements for admission were made more severe; and the curriculum was much enlarged, especially in modern languages and natural science. In 1876 the course for the degree of Bachelor of Philosophy was lengthened to four years. The most radical change was a liberal though guarded extension of the elective system in 1885. Graduate study was thereby encouraged; the degree of Master of Arts was granted upon examination in 1888, that of Doctor of Philosophy in the following year. The number of undergraduates, however, remained nearly the same, seldom rising above two hundred and fifty.

Elisha Benjamin Andrews, of the class of 1870, who had been president of Denison University and professor in Newton Theological Institution, Brown University, and Cornell University, succeeded President Robinson in 1889. During his administration the University grew at a remarkable rate. The students increased to about nine hundred, of whom more than one hundred were candidates for advanced degrees. Several new departments were added, and the Faculty more than trebled. The courses in engineering received greater emphasis, and the degrees of Civil Engineer, Mechanical Engineer, and Bachelor of Science were established. In 1891 the Corporation voted to admit women to the college examinations; in 1892 women were recognized as candidates for degrees, and women graduate students were admitted to the University classes. In 1897 the Corporation created "a department of the University to be known as the Women's Col-

lege in Brown University"; and in the same year the Rhode Island Society for the Collegiate Education of Women built Pembroke Hall and gave it to the University as a recitation hall for the Women's College, where women undergraduates might receive instruction in separate classes taught by members of the University Faculty, although taking the University examinations and receiving their degrees from the University. Wilson Hall, Ladd Observatory, and Lyman Gymnasium were completed in 1891, and Hope College was renovated. Maxcy Hall, a dormitory with a few class-rooms, was built in 1895. A new athletic field, named in honor of President Andrews, was laid out in 1898-99. In 1898 the productive funds were \$1,125,685; the estimated value of the grounds and buildings was \$1,177,966. In this year President Andrews resigned, to become superintendent of the Chicago public schools.

William Herbert Perry Faunce, of the class of 1880, was elected president in 1899, Professor Benjamin F. Clarke having served as president *ad interim* for the preceding academic year. The material resources of the University have been greatly enlarged during the present administration. The general endowment has increased to \$4,446,243. Salaries have been raised, and a pension system similar to that of the Carnegie Foundation went into effect in 1913. Many new buildings have been erected: a house for the president, in 1901; an Administration Building, the gift of Augustus Van Wickle, in 1902; an Engineering Building, in 1903; Caswell Hall, a dormitory, in 1904; Rockefeller Hall, named for the donor, John D. Rockefeller, and occupied by the Christian Association and the Brown Union, in 1904; the John Carter Brown Library, given by the trustees of the estate of John Nicholas Brown, in 1904; the Carrie Tower, built by Paul Bajnotti in memory of his wife, Carrie Mathilde Brown Bajnotti, in 1904; a field house on Andrews Field, erected by Edgar L. Marston, in 1907; and the John Hay Library, the gift of Andrew Carnegie and others, in 1910. The Arnold Biological Laboratory, named for the donor, Dr. Oliver H. Arnold, was begun in 1914. A marble swimming pool was given by Colgate Hoyt in 1904. In 1903 a great organ, presented by Lucian Sharpe, was set up in Sayles Hall. Bronze statues of Caesar Augustus and Marcus Aurelius, the gifts of Moses B. I. Goddard, were placed on the campus in 1906 and 1908. An iron fence around the grounds was completed in 1905; and gates have been erected at various times—the Van Wickle Gates, in 1901; the John Nicholas Brown Gate, given by Mrs. Brown, in 1904; the Goddard

Gates, in memory of Chancellor William Goddard, the gift of his daughter, Mrs. C. Oliver Iselin, in 1910; and the gates at minor entrances, presented by the classes of 1872, 1884, and 1887. The Slater Memorial Homestead was given to the Women's College by Mrs. Horatio N. Slater, for a dormitory, in 1900. Sayles Gymnasium, for the women students, was built by Frank A. Sayles in 1906, in memory of his sister. Miller Hall, a women's dormitory named for Dr. and Mrs. Horace G. Miller, was erected in 1910.

The Faculty has increased to more than a hundred members, and the number of students to over a thousand. Entrance requirements for the engineering degrees and the degree of Bachelor of Philosophy have been raised, and those for the degree of Bachelor of Arts have been broadened. The curriculum has been widened and deepened, while the elective system has been guarded against abuse by regulations securing a certain breadth of study. Graduate study has been fostered by the development of laboratories and seminaries. The work of the Faculty has been better organized by the appointment of deans and by reform of the committee system. Undergraduate life is more carefully supervised, partly through agencies that give training in self-government. The university has been brought into closer relations with the community, the alumni, and other educational institutions, by the establishment of the Brown University Teachers' Association, the appointment of visiting committees, the formation of new alumni associations, and the giving of more power to the alumni in the choice of trustees.

The general effect of the policy of the last three administrations has been to make the institution a "university college," as it has been called, combining many of the advantages of the small college and the large university.

At the close of the one hundred and forty-sixth Commencement of the University, in 1914, there were enrolled the names of 7749 graduates—7022 men and 727 women. Of this number, 6863 had received the academic first degree; 171, exclusive of the foregoing, had received advanced degrees; 69, not previously reckoned, had received the degree of Doctor of Medicine; 646 others had received honorary degrees. Of the entire number, 4510, or 58 per cent, were living.

ADMISSION TO THE UNIVERSITY

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METHODS OF ADMISSION TO THE FRESHMAN CLASS ‡

ENTRANCE EXAMINATIONS CONDUCTED BY THE UNIVERSITY. Examinations for admission to the Freshman class are given by the University in September at the times and places indicated below. The University no longer offers entrance examinations in June; candidates desiring to be examined in June must take the examinations conducted under the supervision of the College Entrance Examination Board, for which see page 31. A candidate may, at his option, take all his examinations in June or in September, or he may take part in June and part in September. Before taking any examination conducted by the University, a candidate must make written application to the Registrar, on a blank provided for the purpose, and secure a card admitting him to the examination. This may be done by correspondence, provided that the application is received not less than one week before the date of the first examination. A letter of recommendation from the principal of the preparatory school must be filed with the application.

Any of these examinations may be taken one year before the candidate expects to enter college.

If a candidate offers subjects in excess of those required for admission, he may be examined in them at the times regularly scheduled for entrance examinations, and receive credit for them as college studies. He must, however, state on his application that such examinations are for advanced standing.

The order of the examinations in 1915 will be as follows:

TUESDAY, SEPTEMBER 14

Algebra, Sayles Hall, 8 a.m. to 10 a.m.

Plane Geometry, Sayles Hall, 10 a.m. to 12 m.

Two-year Latin, Sayles Hall, 1 p.m. to 3 p.m.

Elementary Latin, Sayles Hall, 1 p.m. to 3 p.m.

Advanced Latin, Sayles Hall, 3.30 p.m. to 5 p.m.

WEDNESDAY, SEPTEMBER 15

English A, Sayles Hall, 8 a.m. to 10 a.m.

English B, Sayles Hall, 10 a.m. to 12 m.

Chemistry, Sayles Hall, 1 p.m. to 3 p.m.

Ancient History, Sayles Hall, 3.30 p.m. to 5.30 p.m.

THURSDAY, SEPTEMBER 16

Elementary German (First year), Sayles Hall, 8 a.m. to 10 a.m.

Elementary German (Second year), Sayles Hall, 10 a.m. to 12 m.

Intermediate German, Sayles Hall, 1 p.m. to 3 p.m.

‡ For methods of making up entrance deficiencies see pages 69, 70.

American History, Sayles Hall, 3.15 p.m. to 5.15 p.m.

Physiography, Sayles Hall, 5.30 p.m. to 7.30 p.m.

FRIDAY, SEPTEMBER 17

Elementary French (First year), Sayles Hall, 8 a.m. to 10 a.m.

Elementary French (Second year), Sayles Hall, 10 a.m. to 12 m.

Intermediate French, Sayles Hall, 1 p.m. to 3 p.m.

Astronomy, Sayles Hall, 3.15 p.m. to 5.15 p.m.

English History, Sayles Hall, 5.30 p.m. to 7.30 p.m.

SATURDAY, SEPTEMBER 18

Plane Trigonometry, Sayles Hall, 8 a.m. to 10 a.m.

Solid Geometry, Sayles Hall, 10 a.m. to 12 m.

Advanced Algebra, Sayles Hall, 1 p.m. to 3 p.m.

Physics, Sayles Hall, 3.15 p.m. to 5.15 p.m.

Botany, Sayles Hall, 5.30 p.m. to 7.30 p.m.

MONDAY, SEPTEMBER 20

Elementary Greek, Sayles Hall, 8 a.m. to 10 a.m.

Advanced Greek, Sayles Hall, 10 a.m. to 11.30 a.m.

Medieval and Modern History, Sayles Hall, 1 p.m. to 3 p.m.

Spanish, Sayles Hall, 3.30 p.m. to 5.30 p.m.

ENTRANCE EXAMINATIONS CONDUCTED BY THE COLLEGE ENTRANCE EXAMINATION BOARD. Examinations conducted under the supervision of the College Entrance Examination Board are accepted in place of the corresponding examinations conducted by Brown University. In 1915 these examinations will be held June 14-19.

All applications for these examinations must be addressed to the Secretary of the College Entrance Examination Board, Post Office Sub-Station 84, New York, and must be made upon a blank form to be obtained from the Secretary of the Board. Applications for examination at points in the United States east of the Mississippi River, also at Minneapolis, St. Louis, and other points on the Mississippi River, must be received by the Secretary of the Board on or before Monday, May 31, 1915; applications for examination elsewhere in the United States or in Canada must be received on or before Monday, May 24, 1915; and applications for examinations at points outside the United States and Canada must be received on or before Monday, May 10, 1915. Applications received later than the dates named will be accepted when it is possible to arrange for the examinations of the candidates concerned, but only upon the payment of \$5 in addition to the regular fee.

The examination fee is \$5 for all candidates examined at points in the United States and Canada, and \$15 for all candidates examined at points outside of the United States and Canada. The fee (which cannot be accepted in advance of the application) should be remitted by postal order, express

order, or draft on New York, to the order of the College Entrance Examination Board.

A list of the places at which examinations are to be held by the Board in June, 1915, will be published about March 1. Requests that the examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1.

ADMISSION BY CERTIFICATE. In place of examinations, certificates are accepted from any school which has the privilege of issuing certificates to Brown University.

Principals of schools in New England who desire the certificate privilege for Brown University, or for any other college which is a member of the New England College Entrance Certificate Board, should address the Secretary of the Board, Professor Frank W. Nicolson, Wesleyan University, Middletown, Conn., who will furnish the necessary application blanks. These blanks must be returned to him before April 1 of the year for which the certificate privilege is desired.

Principals of schools situated outside of New England who desire the certificate privilege must make application to the Registrar of the University before May 1, if possible, and must furnish full and detailed information regarding the courses of study, teachers, pupils, library, laboratories, apparatus, etc. Blank forms for this purpose will be supplied on request. If this statement is satisfactory, the school will be placed on the accredited list for a period of from one to three years. At the expiration of this period, or whenever the principal of the school is changed or a change in policy is instituted, a new application for the certificate privilege must be made.

Certificates from the New York Board of Regents are accepted for the specified subjects so far as they coincide with the entrance requirements of Brown University.

Certificates are accepted for admission to the Freshman class only, not for admission to advanced standing.

Blank forms for the certification of candidates may be obtained from the Registrar by the principals of schools having the privilege of certification. These forms should be filled out and returned to him by July 1. When a student has attended more than one school, a letter of recommendation from the principal of the school last attended must accompany the certificate.

UNITS OF ENTRANCE REQUIREMENTS. A unit in any subject represents a year's study, constituting approximately a quarter of a full year's work in a secondary school.

This statement is designed to afford a standard of measurement for the work done in secondary schools. It takes the four-year high school course as a basis, and assumes that the length of the school year is from thirty-six to forty weeks, that a period is from forty to sixty minutes in length, and that the study is pursued for four or five periods a week; but under ordinary cir-

cumstances, a satisfactory year's work in any subject cannot be accomplished in less than one hundred and twenty sixty-minute periods or their equivalent. Schools organized on any other than a four-year basis can, nevertheless, estimate their work in terms of this unit.

SUBJECTS REGULARLY ACCEPTED FOR ADMISSION

	<i>Units</i>		<i>Units</i>
English 1 (Grammar and Composition)	1½	Intermediate French	1
English 2 (Literature)	1½	Elementary German (First year)	1
Ancient History	1	Elementary German (Second year)	1
Medieval and Modern European History	1	Intermediate German	1
English History	1	Spanish	2
American History and Civil Government	1	Algebra	1½
Two-year Latin	2	Advanced Algebra (not for Sc.B.)	½
Elementary Latin	3	Plane Geometry	1
Advanced Latin	1	Solid Geometry	½
Elementary Greek	2	Plane Trigonometry (not for Sc.B.)	½
Advanced Greek	1	Physics	1
Elementary French (First year)	1	Chemistry	1
Elementary French (Second year)	1	Botany	1
		Physiography	1
		Astronomy (for Sc.B. only)	1

UNLISTED SUBJECTS. With the approval of the Committee on Registration and Attendance, subjects not on the regular list, but included in the curriculum of an approved school, may be presented as elective subjects, provided: (1) That the candidate is a graduate of the school on a four-year course. (2) That the grade for certification is the same as for the listed subjects. (3) That the aggregate value of such subjects does not exceed two units.

ENTRANCE REQUIREMENTS FOR THE VARIOUS DEGREES

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS. Candidates must present fourteen and one-half units as follows: three in English; one and one-half in Algebra; one in Plane Geometry; one in Ancient History; five in languages other than English (including the elementary and advanced requirement in either Latin or Greek); and three in elective subjects.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF PHILOSOPHY. Candidates must present fourteen and one-half units as follows: three in English; one and one-half in Algebra; one in Plane Geometry; one in History; three in languages other than English (including one in either French or German); and five in elective subjects.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE.‡ Candidates must present fourteen units as follows: three in English; one and one-half in Algebra; one in Plane Geometry; one-half in Solid Geometry; one in History; four (one of which must be in Chemistry or Physics) from the following subjects: French, German, Spanish, Chemistry, Physics; and three in elective subjects.

ENTRANCE REQUIREMENTS IN THE SEVERAL SUBJECTS§

ENGLISH. *Three units.* Preparation in English has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

GRAMMAR AND COMPOSITION. The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles governing punctuation, diction, paragraphs, and the whole composition should be carefully studied; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise narration, description, and easy exposition and argument based upon simple outlines. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

LITERATURE. In the pursuit of the second object the student is required to read certain books chosen from two lists, headed respectively *Reading* and *Study*. In connection with both lists the student should be trained in reading aloud, and should be encouraged to commit to memory some of the more notable passages both in verse and in prose.

FOR STUDENTS ENTERING 1915 TO 1919

Reading

The aim of this part of the requirement is to foster in the student the habit of intelligent reading and to develop a taste for good literature. He should read

‡ In Brown University the Degree of Bachelor of Science is given only for engineering courses. The work is mainly technical and offers no freedom of election.

§ The following statements are condensations of those in the Report of the College Entrance Examination Board. Teachers are advised to consult this report.

the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and the charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under Group I.

GROUP I. CLASSICS IN TRANSLATION. The *Old Testament*, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the *Odyssey*, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the *Iliad*, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; the *Aeneid*. The *Odyssey*, *Iliad*, and *Aeneid* should be read in English translations of recognized literary excellence.

For any selection from this group a selection from any other group may be substituted.

GROUP II. DRAMA. Shakspeare: *A Midsummer Night's Dream*; *The Merchant of Venice*; *As You Like It*; *Twelfth Night*; *The Tempest*; *Romeo and Juliet*; *King John*; *Richard the Second*; *Richard the Third*; *Henry the Fifth*; *Coriolanus*; *Julius Caesar*; ‡ *Macbeth*; ‡ *Hamlet*.‡

GROUP III. PROSE FICTION. Malory: *Morte d'Arthur* (about 100 pages); Bunyan: *Pilgrim's Progress*, Part I; Swift: *Gulliver's Travels* (voyages to Lilliput and Brobdingnag); Defoe: *Robinson Crusoe*, Part I; Goldsmith: *The Vicar of Wakefield*; Frances Burney: *Evelina*; Scott's Novels, any one; Jane Austen's Novels, any one; Maria Edgeworth: *Castle Rackrent* or *The Absentee*; Dickens's Novels, any one; Thackeray's Novels, any one; George Eliot's Novels, any one; Mrs. Gaskell: *Cranford*; Kingsley: *Westward Ho!* or *Hereward, the Wake*; Reade: *The Cloister and the Hearth*; Blackmore: *Lorna Doone*; Hughes: *Tom Brown's School Days*; Stevenson: *Treasure Island*, or *Kidnapped*, or *The Master of Ballantrae*; Cooper's Novels, any one; Poe: *Selected Tales*; Hawthorne: *The House of the Seven Gables*, or *Twice Told Tales*, or *Mosses from an Old Manse*; a collection of short stories by various standard writers.

GROUP IV. ESSAYS, BIOGRAPHY, ETC. Addison and Steele: *The Sir Roger de Coverley Papers* or selections from *The Tatler* and *The Spectator* (about 200 pages); Boswell: Selections from the *Life of Johnson* (about 200 pages); Franklin: *Autobiography*; Irving: Selections from the *Sketch Book* (about 200 pages), or *Life of Goldsmith*; Southey: *Life of Nelson*; Lamb: Selections from the *Essays of Elia* (about 100 pages); Lockhart: Selections from the *Life of Scott* (about 200 pages); Thackeray: *Lectures on Swift, Addison, and Steele* in the *English Humourists*; Macaulay: Any one of the following essays: *Lord Clive*, *Warren Hastings*, *Milton*, *Addison*, *Goldsmith*, *Frederic the Great*, *Madame d'Arblay*; Trevelyan: Selections from the *Life of Macaulay* (about

‡ If not chosen under *Study*.

200 pages); Ruskin: *Sesame and Lilies* or selections (about 150 pages); Dana: *Two Years before the Mast*; Lincoln: Selections, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley, together with a brief memoir or estimate of Lincoln; Parkman: *The Oregon Trail*; Thoreau: *Walden*; Lowell: Selected Essays (about 150 pages); Holmes: *The Autocrat of the Breakfast Table*; Stevenson: *An Inland Voyage* and *Travels with a Donkey*; Huxley: *Autobiography* and selections from *Lay Sermons*, including the addresses on Improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; a collection of Essays by Bacon, Lamb, De Quincey, Hazlitt, Emerson, and later writers; a collection of Letters by various standard writers.

GROUP V. POETRY. Palgrave: *Golden Treasury* (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave: *Golden Treasury* (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley (if not chosen under *Study*); Goldsmith: *The Traveller* and *The Deserted Village*; Pope: *The Rape of the Lock*; a collection of English and Scottish ballads, as, for example, some Robin Hood ballads, *The Battle of Otterburn*, *King Estmere*, *Young Beichan*, *Bewick and Grahame*, *Sir Patrick Spens*, and a selection from later ballads; Coleridge: *The Ancient Mariner*, *Christabel*, and *Kubla Khan*; Byron: *Childe Harold*, Canto III or IV, and *The Prisoner of Chillon*; Scott: *The Lady of the Lake* or *Marmion*; Macaulay: *The Lays of Ancient Rome*, *The Battle of Naseby*, *The Armada*, *Ivory*; Tennyson: *The Princess*, or *Gareth and Lynette*, *Lancelot and Elaine*, and *The Passing of Arthur*; Browning: *Cavalier Tunes*, *The Lost Leader*, *How They Brought the Good News from Ghent to Aix*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *An Incident of the French Camp*, *Hervé Riel*, *Pheidippides*, *My Last Duchess*, *Up at a Villa—Down in the City*, *The Italian in England*, *The Patriot*, *The Pied Piper*, “*De Gustibus*”—, *Instans Tyrannus*; Arnold: *Sohrab and Rustum* and *The Forsaken Merman*; selections from American Poetry, with especial attention to Poe, Lowell, Longfellow, and Whittier.

Study

This part of the requirement is intended as a natural and logical continuation of the student's earlier reading. Greater stress is laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. For this close reading the books are arranged in four groups, from each of which one selection is to be made.

GROUP I. DRAMA. Shakspeare: *Julius Caesar*; *Macbeth*; *Hamlet*.

GROUP II. POETRY. Milton: *L'Allegro*, *Il Penseroso*, and either *Comus* or *Lycidas*; Tennyson: *The Coming of Arthur*, *The Holy Grail*, and *The Passing of*

Arthur; the selections from Wordsworth, Keats, and Shelley in Book IV of Palgrave's *Golden Treasury* (First Series).

GROUP III. ORATORY. Burke: *Speech on Conciliation with America*; Macaulay: *Speech on Copyright*, and Lincoln: *Speech at Cooper Union*; Washington: *Farewell Address*, and Webster: *First Bunker Hill Oration*.

GROUP IV. ESSAYS. Carlyle: *Essay on Burns*, with a selection from Burns's Poems; Macaulay: *Life of Johnson*; Emerson: *Essay on Manners*.

EXAMINATION. The examination will be divided into two parts, one of which (English 1) will be on grammar and composition, and the other (English 2) on literature.

In grammar and composition, the candidate may be asked to construe sentences, to parse individual words, and to correct mistakes in usage. The main test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from the books listed above under *Reading*, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose several subjects, perhaps eight or ten, will be indicated, from which the candidate may make his own selections.

The examination in literature will include: (1) General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined under *Reading* above. The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but this list will not be made the basis of detailed questions. (2) More particular questions upon the content, form, and structure of the books prescribed for *Study*, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

These requirements are the same as those of the College Entrance Examination Board in English.

MATHEMATICS. ALGEBRA. *One and one-half units.* The requirement in Algebra covers the work through equations of the second degree, including the following subjects: the four fundamental operations for rational algebraic expressions; factoring, determination of highest common factor and lowest common multiple by factoring; fractions, including complex fractions, and ratio and proportion; linear equations, both numerical and literal, containing one or more unknown quantities; problems depending on linear equations;

radicals, including the extraction of the square root of polynomials and of numbers; exponents, including the fractional and negative; quadratic equations, both numerical and literal; simple cases of equations with one or more unknown quantities, that can be solved by the methods of linear or quadratic equations; the binomial theorem for positive integral exponents; the formulae for the n th term, and the sum of the terms, of arithmetical and geometric progressions, with applications.

It is assumed that pupils will be required throughout the course to solve numerous problems which involve putting questions into equations. Some of these problems should be chosen from mensuration, from physics, and from commercial life. The use of graphical methods and illustrations, particularly in connection with the solution of equations, is also expected.

This requirement is the same as that of the College Entrance Examination Board in Mathematics *a* (i and ii).

PLANE GEOMETRY. *One unit.* The requirement in Plane Geometry covers the usual theorems and constructions of good text-books, including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons and the measurement of the circle; the solution of numerous original exercises, including loci problems; applications to the mensuration of lines and plane surfaces.

Teachers of Geometry should lay stress on accuracy of statement and elegance of form as well as on clear and strict reasoning. Mere memorizing should be avoided. Special care should be taken that in the proof of a proposition no lines be drawn unless their construction is proved to be possible.

This requirement is the same as that of the College Entrance Examination Board in Mathematics *c*.

SOLID GEOMETRY. *One-half unit.* The requirement in Solid Geometry covers the usual theorems and constructions of good text-books, including the relations of planes and lines in space; the properties and measurements of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle; the solution of numerous original exercises, including loci problems; applications to the mensuration of surfaces and solids.

This requirement is the same as that of the College Entrance Examination Board in Mathematics *d*.

PLANE TRIGONOMETRY. *One-half unit.* The requirement in Plane Trigonometry includes definitions and relations of the six trigonometric functions as ratios; circular measurement of angles; proofs of principal formulae, in particular for the sine, cosine, and tangent of the sum and difference of two angles, of the double angle and half angle, the product expressions for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulae; the solution of trigonometric equations of a simple character; the theory and use of logarithms

(without the introduction of work involving infinite series); the solution of right and oblique triangles; practical applications.

This requirement is the same as that of the College Entrance Examination Board in Mathematics *f*.

ADVANCED ALGEBRA. *One-half unit.* The requirement in Advanced Algebra includes permutations and combinations, limited to simple cases; complex numbers, with graphical representation of sums and differences; determinants, chiefly of the second, third, and fourth orders, including the use of minors and the solution of linear equations; numerical equations of higher degree, and so much of the theory of equations, with graphical methods, as is necessary for their treatment, including Descartes's rule of signs and Horner's method, but not Sturm's functions or multiple roots. This requirement is the same as that of the College Entrance Examination Board in Mathematics *b*.

LATIN.‡ ELEMENTARY LATIN. *Three units.* The reading without the prescription of particular authors and works shall not be less in amount than Caesar, *Gallie War*, Books I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias. The reading shall be selected from the following authors and works: Caesar, *Gallie War* and *Civil War*, and Nepos, *Lives*; Cicero, orations, letters, and *De Senectute*, and Sallust, *Catiline* and *Jugurthine War*.

Candidates will be examined in translation at sight of passages from Caesar and Cicero. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above. They will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias.

The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose.

The words, constructions, and range of ideas called for in the examination in composition will be such as are common in the reading of the years covered by the examination.

This requirement is the same as that of the College Entrance Examination Board in Latin *N R 1*, *N R 2*, *N R 3*, *N R 4*.

ADVANCED LATIN. *One unit.* The reading shall not be less in amount than Vergil, *Aeneid*, Books I-VI. This reading shall be selected from Vergil, *Bucolics*, *Georgics*, and *Aeneid*, and Ovid, *Metamorphoses*, *Fasti*, and *Tristia*.

Candidates will be examined in translation at sight of passages from Vergil and Ovid. They will be examined also upon the following prescribed reading: Vergil, *Aeneid*, Books I, II, and either IV or VI, at the option of the

‡ For students presenting by examination the full four-unit requirement in Latin, the examinations of the College Entrance Examination Board in Latin 1, 2, 4, 5 will be accepted.

candidate. The examination will include questions on subject-matter and meter.

This requirement is the same as that of the College Entrance Examination Board in Latin *N R 5*.

TWO-YEAR LATIN. *Two units.* The reading shall not be less in amount than Caesar, *Gallic War*, Books I-IV, and should be selected by the schools from Caesar, *Gallic War* and *Civil War*, and Nepos, *Lives*. Candidates will be examined in translation at sight of passages from the above authors, also in grammar and composition.

The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose.

The words, constructions, and range of ideas called for in the examination in composition will be such as are common in the reading of the years covered by the examination.

This requirement is practically the same as that of the College Entrance Examination Board in Latin *N R 1*, *N R 2*, *N R 3*.

GREEK. ELEMENTARY GREEK. *Two units.* The requirement in Elementary Greek includes: (1) Xenophon's *Anabasis*, Books I-IV, with attention not only to language, but to subject-matter as well; (2) grammar, including a familiar knowledge of inflection, word-formation, and ordinary syntax. This will be tested by: (a) questions on a passage from the *Anabasis*; (b) translation into Greek, with accents, of simple English sentences.

This requirement is the same as that of the College Entrance Examination Board in Greek *a* (i and ii), *b*, and *g*.

ADVANCED GREEK. *One unit.* The requirement in advanced Greek includes: (1) Three books of Homer's *Iliad* or *Odyssey*, with questions on meter, Homeric dialect, etc., or (upon request four weeks in advance of the examination) an equivalent amount of a prose author; (2) translation at sight of simple Attic prose or Homer; (3) translation into Greek, with accents, of a continuous passage of English narrative, based upon material similar to the *Anabasis*.

This requirement is the same as that of the College Entrance Examination Board in Greek *f* and *ch*.

FRENCH. ELEMENTARY FRENCH. FIRST YEAR. *One unit.* At the end of the first year the pupil should be able to pronounce French accurately, to translate at sight very easy French prose, to put into French very simple English sentences taken from the language of every-day life or based upon the portion of the French text read, and to answer questions on the rudiments of the grammar as defined below.

During the first year the work should comprise: Careful drill in pronuncia-

tion; the rudiments of grammar, including the inflection of the regular and the more common irregular verbs, the plural nouns, the inflection of adjectives, participles, and pronouns; the use of personal pronouns, common adverbs, prepositions, and conjunctions; the order of words in the sentence, and the elementary rules of syntax, including the simpler uses of the conditional and subjunctive; abundant easy exercises, designed not only to fix in the memory the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; the reading of from 100 to 175 duodecimo pages of graduated texts, with constant practice in translating into French easy variations of the sentences read (the teacher giving the English), and in reproducing from memory sentences previously read; writing French from dictation.

As no examination in first-year French is given by the College Entrance Examination Board, the examination in this subject must be taken in September at Brown University; see page 31.

ELEMENTARY FRENCH. SECOND YEAR. *One unit.* At the end of the second year the pupil should be able to read and translate at sight easy French prose, to put into French simple English sentences taken from the language of everyday life or based upon the portion of the French text read, to write from dictation simple French sentences, and to answer questions on the rudiments of the grammar as defined above with the additions made below.

During the second year the work should comprise: The reading of from 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches; constant practice, as in the previous year, in translating into French easy variations upon the texts read; frequent abstracts, sometimes oral and sometimes written, of portions of the text already read; writing French from dictation; continued drill upon the rudiments of grammar, with constant application in the construction of sentences; mastery of the forms and use of pronouns, pronominal adjectives, and of all but the rare irregular verb forms.

Suitable texts for the second year are: About's *Le roi des montagnes*, Bruno's *Le tour de la France*, Daudet's easier short tales, La Bédollière's *La Mère Michel et son chat*, Erckmann-Chatrian's stories, Foa's *Contes biographiques* and *Le petit Robinson de Paris*, Foncin's *Le pays de France*, Labiche and Martin's *La poudre aux yeux* and *Le voyage de M. Perrichon*, Legouvé and Labiche's *La cigale chez les fourmis*, Malot's *Sans famille*, Mairêt's *La tâche du petit Pierre*, Mérimée's *Colomba*, extracts from Michelet, Sarcey's *Le siège de Paris*, Verne's stories.

The combined requirement in first and second year Elementary French is the same as that of the College Entrance Examination Board in French a.

INTERMEDIATE FRENCH. *One unit.* At the end of the intermediate course the pupil should be able to read at sight ordinary French prose or simple poetry, to translate into French a connected passage of English based on the text read,

and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

The work should comprise the reading of from 400 to 600 pages of French of ordinary difficulty, a portion to be in the dramatic form; constant practice in giving French paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

Suitable texts are: About's stories, Augier and Sandeau's *Le gendre de M. Poirier*, Béranger's poems, Corneille's *Le Cid* and *Horace*, Coppée's poems, Daudet's *La Belle-Nivernaise*, La Brète's *Mon oncle et mon curé*, Madame de Sévigné's letters, Hugo's *Hernani* and *La chute*, Labiche's plays, Loti's *Pêcheur d'Islande*, Mignet's historical writings, Molière's *L'avare* and *Le bourgeois gentilhomme*, Racine's *Athalie*, *Andromaque*, and *Esther*, George Sand's plays and stories, Sandeau's *Mademoiselle de la Seiglière*, Scribe's plays, Thierry's *Récits des temps mérovingiens*, Thiers's *L'expédition de Bonaparte en Egypte*, de Vigny's *La canne de jonc*, Voltaire's historical writings.

This requirement is the same as that of the College Entrance Examination Board in French *b*.

GERMAN.‡ ELEMENTARY GERMAN. FIRST YEAR. *One unit.* At the end of the first year the pupil should be able to read at sight, and to translate, a passage of very easy dialogue or narrative prose, help being given upon unusual words and constructions, to put into German simple English sentences taken from the language of every-day life or based upon the text given for translation, and to answer questions upon the rudiments of the grammar, as defined below.

During the first year the work should comprise: Careful drill upon pronunciation; the memorizing and frequent repetition of easy colloquial sentences; drill upon the rudiments of grammar, that is, upon the inflection of the articles, of such nouns as belong to the language of every-day life, of adjectives, pronouns, weak verbs, and the more usual strong verbs; also upon the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word-order; abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; the reading of from 75 to 100 pages of graduated texts from a reader, with constant practice in translating into German easy variations upon sentences selected from the reading lesson (the teacher giving the English), and in the reproduction from memory of sentences previously read.

As no examination in first year German is given by the College Entrance Examination Board, the examination in this subject must be taken in September at Brown University; see page 30.

‡ An oral test forms a part of all entrance examinations in German.

ELEMENTARY GERMAN. SECOND YEAR. *One unit.* At the end of the second year the pupil should be able to read at sight, and to translate, a passage of easy dialogue or narrative prose, help being given on unusual words and constructions, to put into German short English sentences taken from the language of every-day life or based upon the text given for translation, to write from dictation simple German sentences, and to answer questions upon the rudiments of grammar, as defined in the requirement for the first year, with the additions made below.

During the second year the work should comprise : The reading of from 150 to 200 pages of literature in the form of easy stories and plays ; accompanying practice in the translation into German of easy variations upon the matter read and also in the offhand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy selected passages ; writing German from dictation ; continued drill upon the rudiments of the grammar and mastery of the adjective declensions, the passive, and word-order, directed to the ends of enabling the pupil to use his knowledge with facility in the formation of sentences and to state his knowledge correctly in the technical language of grammar.

Stories suitable for the elementary course can be selected from the following list : Andersen's *Märchen* and *Bilderbuch ohne Bilder* ; Arnold's *Fritz auf Ferien* ; Baumbach's *Die Nonna* and *Der Schwiegersohn* ; Gerstäcker's *Germelshausen* ; Heyse's *L'Arrabbiata*, *Das Mädchen von Treppi*, and *Anfang und Ende* ; Hillern's *Höher als die Kirche* ; Jensen's *Die braune Erica* ; Leander's *Träumereien* and *Kleine Geschichten* ; Seidel's *Märchen* ; Stökl's *Unter dem Christbaum* ; Storm's *Imensee* and *Geschichten aus der Tonne* ; Zschokke's *Der zerbrochene Krug*.

Good plays adapted to the elementary course are much harder to find than good stories. Five-act plays are too long. They require more time than it is advisable to devote to any one text. Among shorter plays the best available are perhaps Benedix's *Der Prozess*, *Der Weiberfeind*, and *Günstige Vorzeichen* ; Elz's *Er ist nicht eifersüchtig* ; Wichert's *An der Majorsecke* ; Wilhelmi's *Einer muss heiraten*. It is recommended, however, that not more than one of these plays be read. The narrative style should predominate. A good selection of reading matter for the second year would be Andersen's *Märchen*, or *Bilderbuch*, or Leander's *Träumereien*, to the extent of about forty pages. After that, such a story as *Das kalte Herz* or *Der zerbrochene Krug* ; then *Höher als die Kirche* or *Imensee* ; next a good story by Heyse, Baumbach, or Seidel ; lastly *Der Prozess*.

The combined requirement in first and second year elementary German is the same as that of the College Entrance Examination Board in German *a*.

INTERMEDIATE GERMAN. *One unit.* At the end of the intermediate course the pupil should be able to read at sight German prose of ordinary difficulty, whether recent or classical ; to put into German a connected passage of simple English, paraphrased from a given text in German ; to answer any grammatical

questions relating to usual forms and essential principles of the language, including syntax and word-formation, and to translate and explain a passage of classical literature taken from some text previously studied.

The work should comprise, in addition to the elementary course, the reading of about 400 pages of moderately difficult prose and poetry, with constant practice in giving, sometimes orally and sometimes in writing, paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; writing connected German passages from dictation; also grammatical drill upon the less usual strong verbs, the use of articles, cases, auxiliaries of all kinds, tenses and modes (with special reference to the infinitive and subjunctive), and likewise upon word-order and word-formation.

Suitable reading matter for the third year can be selected from such works as the following: Ebner-Eschenbach's *Die Freiherren von Gemperlein*; Freytag's *Die Journalisten* and *Bilder aus der deutschen Vergangenheit*, — for example, *Karl der Grosse*, *Aus den Kreuzzügen*, *Doktor Luther*, *Aus dem Staat Friedrichs des Grossen*; Fouqué's *Undine*; Gerstäcker's *Irrfahrten*; Goethe's *Hermann und Dorothea* and *Iphigenie*; Heine's poems and *Reisebilder*; Hoffmann's *Historische Erzählungen*; Lessing's *Minna von Barnhelm*; Meyer's *Gustav Adolf's Page*; Moser's *Der Bibliothekar*; Riehl's *Novellen*, — for example, *Burg Neideck*, *Der Fluch der Schönheit*, *Der stumme Ratsherr*, *Das Spielmannskind*; Rosegger's *Waldheimat*; Schiller's *Der Neffe als Onkel*, *Der Geisterseher*, *Wilhelm Tell*, *Die Jungfrau von Orleans*, *Das Lied von der Glocke*, *Bal-laden*; Scheffel's *Der Trompeter von Säckingen*; Wildenbruch's *Das edle Blut*; a good anthology of German verse (such as Hatfield's or von Klenze's).

This requirement is the same as that of the College Entrance Examination Board in German b.

SPANISH. ELEMENTARY SPANISH. *Two units.* At the end of the elementary course the pupil should be able to pronounce Spanish accurately, to read at sight easy Spanish prose, to put into Spanish simple English sentences taken from the language of every-day life or based upon a portion of the Spanish text read, and to answer questions on the rudiments of the grammar, as defined below.

During the first year the work should comprise: Careful drill in pronunciation; the rudiments of grammar, including the conjugation of the more regular and the more common irregular verbs, the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax; exercises containing illustrations of the principles of grammar; the reading and accurate rendering into good English of from 100 to 175 duodecimo pages of graduated texts, with translation into Spanish of easy variations of the sentences read; writing Spanish from dictation.

During the second year the work should comprise: The reading of from 250 to 400 pages of modern prose from different authors; practice in translating Spanish into English, and English variations of the text into Spanish; con-

tinued study of the elements of grammar and syntax ; mastery of all but the rare irregular verb forms and of the simpler uses of the modes and tenses ; writing Spanish from dictation ; memorizing of easy short poems.

Suitable texts for the second year are : Valera's *El Pájaro verde* ; Alarcón's *El final de Norma* ; Valdès's *José* ; Galdós's *Doña Perfecta*, *Marianela* ; Padre Isla's version of *Gil Blas* ; Carrion and Aza's *Zaraqueta*.

This requirement is the same as that of the College Entrance Examination Board in Spanish.

HISTORY. ANCIENT HISTORY. *One unit.* Special attention to Greek and Roman history, but including also a short introductory study of the more ancient nations and the chief events of the early Middle Ages, down to the death of Charlemagne (814).

MEDIEVAL AND MODERN EUROPEAN HISTORY. *One unit.* From the death of Charlemagne to the present time.

ENGLISH HISTORY. *One unit.*

AMERICAN HISTORY AND CIVIL GOVERNMENT. *One unit.*

The examinations in history will be so framed as to require comparison and judgment on the pupil's part rather than mere memory. The examinations will presuppose the use of good text-books, at least 600 duodecimo pages of collateral reading, and practice in written work. Historical novels, plays, or poems will not be accepted in fulfilment of the requirement of collateral reading. The methods of instruction which the examinations in History and Civil Government presuppose are substantially identical with those set forth in *A History Syllabus for Secondary Schools* (D. C. Heath & Co.) ; and the references for collateral reading given in that manual may be taken as indications of the kind of collateral reading that should be done.

These requirements are the same as those of the College Entrance Examination Board in History *a, b, c, d.*

PHYSICS. *One unit.* Preparation in Physics should include : (1) The study of one standard text-book, for the purpose of obtaining a connected and comprehensive view of the subject. The student should be given opportunity and encouragement to consult other scientific literature. (2) Instruction by lecture-table demonstrations, to be used mainly for illustration of the facts and phenomena of physics in their qualitative aspects and in their practical applications. (3) Individual laboratory work, consisting of experiments requiring at least the time of thirty double periods. The experiments performed by each student should number at least thirty. The work should be so distributed as to give a wide range of observation and practice. The aim of laboratory work should be to supplement the pupil's fund of concrete knowledge and to cultivate his power of accurate observation and clearness of thought and expression. The exercises should be chosen with a view to furnishing forceful illustra-

tions of fundamental principles and their practical applications. They should be such as yield results capable of ready interpretation, obviously in conformity with theory, and free from the disguise of unintelligible units. Slovenly work should not be tolerated, and the effort for precision should not lead to the use of apparatus or processes so complicated as to obscure the principle involved.

Throughout the whole course special attention should be paid to the common illustrations of physical laws and to their industrial applications.

In the solution of numerical problems, the student should be encouraged to make use of the simple principles of algebra and geometry to reduce the difficulties of solution, but unnecessary mathematical difficulties should be avoided, and care should be exercised to prevent the student from losing sight of the concrete facts in the manipulation of symbols.

Every candidate must present as a part of the examination, a note-book, certified by the teacher, containing in the candidate's own language a description of his laboratory exercises, with a careful record of the steps, observations, and results of each exercise. The note-book must afford clear evidence of the pupil's ability to make accurate observations and to draw direct conclusions.

This requirement is the same as that of the College Entrance Examination Board in Physics.

CHEMISTRY. *One unit.* The following outline includes only the indispensable topics which must be studied in the class-room and laboratory. The material is, for the most part, common to all elementary text-books and laboratory manuals. The order of presentation will naturally be determined by the teacher.

OUTLINE. The chief physical and chemical characteristics, the preparation and the recognition of the following elements and their chief compounds: *oxygen, hydrogen, carbon, nitrogen, chlorine, bromine, iodine, fluorine, sulphur, phosphorus, silicon, potassium, sodium, calcium, magnesium, zinc, copper, mercury, silver, aluminum, lead, tin, iron, manganese, chromium.*

More detailed study should be confined to the italicized elements and to a restricted list of compounds, such as: water, hydrochloric acid, carbon-monoxide, carbon-dioxide, nitric acid, ammonia, sulphur dioxide, sulphuric acid, hydrogen-sulphide, sodium-hydroxide.

Attention should be given to the atmosphere (constitution and relation to animal and vegetable life), flames, acids, bases, salts, oxidation and reduction, crystallization, manufacturing processes, familiar substances (illuminating gas, explosives, baking powder, mortar, glass, steel, common alloys, porcelain, soap).

Combining proportions by weight and volume; calculations founded on these and on Boyle's and Charles's laws; symbols and nomenclature (with careful avoidance of special stress, since these are non-essential); atomic theory, atomic weights and valency in a very elementary way; nascent state; natural group-

ing of the elements; solution (solvents and solubility of gases, liquids, and solids; saturation); ionization; mass action and equilibrium; strength (=activity) of acids and bases; conservation and dissipation of energy; chemical energy (very elementary); electrolysis. Chemical terms should be defined and explained, and the pupil should be able to illustrate and apply the ideas they embody. The theoretical topics are not intended to form separate subjects of study, but should be taught only so far as is necessary for the correlation and explanation of the experimental facts.

It is recommended that the candidate's preparation in chemistry should include: (1) Individual laboratory work, comprising at least forty exercises; (2) instruction by lecture-table demonstrations, to be used mainly as a basis for questioning upon the general principles involved in the pupil's laboratory investigations; (3) the study of at least one standard text-book, to the end that the pupil may gain a comprehensive and connected view of the most important facts and laws of elementary chemistry.

Every candidate must present as a part of the examination, a note-book, certified by the teacher, containing in the candidate's own language a description of his laboratory exercises, with a careful record of the steps, observations, and results of each exercise. The note-book must afford clear evidence of the pupil's ability to make accurate observations and to draw direct conclusions.

This requirement is the same as that of the College Entrance Examination Board in Chemistry.

BOTANY. *One unit.* The course should include a careful study of the general principles of Anatomy and Morphology, Physiology, and Ecology; also the natural history of the plant groups, and classification.

Individual laboratory work by the student is essential and should receive at least double the amount of time given to recitation. Records of the laboratory work, properly certified by the teacher, in which stress is laid upon accurate drawing and precise description, must be presented at the time of examination.

Where special circumstances, such as exceptional difficulty of obtaining material, prevent the completion of the entire amount while allowing its equivalent in thoroughness, it is recommended that some of the minor topics be omitted rather than that the attempt be made to cover all more superficially. To provide for this possibility, the examination papers will always include a number of alternative questions.

This requirement is the same as that of the College Entrance Examination Board in Botany.

PHYSIOGRAPHY. *One unit.* The candidate's preparation should include: (1) The study of one of the leading secondary text-books in physical geography, that a knowledge may be gained of the essential principles and of well-selected facts illustrating those principles; (2) individual laboratory work, comprising at least forty exercises. From one-third to one-half of the candidate's

class-room work should be devoted to laboratory exercises. In the autumn and spring field trips should take the place of laboratory exercises. Properly attested reports of field and laboratory work must be presented at the time of examination.

This requirement is the same as that of the College Entrance Examination Board in Geography.

ASTRONOMY. *One unit.* The requirement in Astronomy demands class instruction in the elementary principles of the science, including observations of the heavens with reference to the positions and movements of the heavenly bodies. The following are the chief topics to be studied: *The Celestial Sphere*; designation of the directions of a heavenly body. *The Earth*; its axial rotation; time, latitude, longitude; its orbital revolution; precession; aberration, the seasons, equation of time, the calendar. *The Moon*; its axial rotation, orbital motion, librations, phases, surface features, physical condition; lunar and solar eclipses. *The Sun*; its rotation, physical characteristics, light, and heat. *The Planets*; apparent and real motions, individual characteristics. *The Law of Gravitation*; its control of the solar system; the tides. *Comets and Meteors*; their nature and motions. *The Stars*; designation, classification by constellations, motions, distance, brightness, variables. *Stellar Systems*; clusters, nebulae; the stellar universe, cosmogony.

As no examination in Astronomy is given by the College Entrance Examination Board, the examination in this subject must be taken in September at Brown University; see page 31.

ADMISSION TO ADVANCED STANDING

A candidate for admission to advanced standing, unless coming from an institution of collegiate rank, will be examined in the studies required for entrance to Brown University (unless admitted by certificate) and in those already pursued by the class which he desires to enter.

A candidate for admission to advanced standing, who comes from an approved institution of collegiate rank, may receive credit, without examination, for work done at such institution. He will be required, however, to present, or to have had accepted elsewhere, the same entrance subjects as are demanded of students entering Brown University without advanced credit; and to cover, or to have covered, all the prescribed subjects in the course leading to the desired degree at Brown University. The Committee on Registration and Attendance will determine the amount of credit that he may receive, on receipt of the following papers, all of which should be sent to the Registrar of Brown University: (1) A formal statement, made out and signed by the proper official of the institution previously attended, showing all preparatory subjects accepted by it for entrance, and all the courses attended at college, with their catalogue

numbers, and the standing attained therein by the student ; (2) a similar official statement as to whether the student has completed the amount of work regularly required up to the time of his withdrawal from the previous institution, or has done work in excess thereof, or of less amount, or has incurred conditions or probation ; (3) a marked catalogue of the institution previously attended, describing the subjects taken ; (4) a letter of honorable dismissal from the institution last attended. In case the student desires to present subjects for entrance in addition to those required or accepted at the previous institution, they will be accepted without examination by Brown University provided that they are certified by an approved preparatory school.

Every candidate for a bachelor's degree, admitted to advanced standing, must remain in residence at the University at least one year, and must take in regular course the full amount of work ordinarily required during the academic year.

ADMISSION OF SPECIAL STUDENTS

Mature persons of good character who desire to pursue some special subjects and who have had the requisite preliminary training are allowed to enter the various courses of study in the University without becoming candidates for a degree.

Applicants for registration as special students must present to the Registrar, on or before August 1 if possible, a certified and detailed statement of the nature and extent of their preparatory work, including testimonials of character and ability. In case a student has attended more than one institution, he must present credentials from each of them. Applicants must satisfy the Committee on Registration and Attendance, by passing the entrance examinations or presenting certificates, that they are qualified to pursue the courses desired.

Special students are subject to the same regulations regarding attendance and examinations as candidates for degrees ; they must take fifteen hours of class-room work a week unless satisfactory reasons for a smaller assignment are presented.

ADMISSION OF GRADUATE STUDENTS

To be admitted as a candidate for an advanced degree, an applicant must have received the degree of Bachelor of Arts, of Philosophy, of Science,[‡] or of Letters from Brown University, or some other college of good standing ;

[‡] The degree of Bachelor of Science when given for technical work does not lead to the degree of Master of Arts or Doctor of Philosophy in Brown University.

or, being a student in Brown University, must have completed with a rank of B the work leading to the degree of Bachelor of Arts, of Philosophy, or of Science, with the exception of such an amount as the Committee on Registration and Attendance will allow him to take in excess of a full year's work (fifteen hours a week). A candidate for the degree of Master of Science must have completed in his undergraduate course at least twenty-eight year-hours of work in mathematics and the sciences.

Persons who have obtained the degree of Bachelor of Arts, of Philosophy, of Science, or of Letters, and who desire to pursue graduate studies without being candidates for an advanced degree, are admitted as special graduate students. Such students are subject to all the regulations of the University regarding graduate students except those which relate to candidacy for degrees.

REGISTRATION AND ENROLMENT OF UNDERGRADUATES

REGISTRATION. In September all new students, whether candidates for a degree or special students, must report at the Administration Building between 9 a.m. and 1 p.m. or between 2.30 p.m. and 5 p.m. on the Monday or Tuesday preceding the opening of the first semester, and fill out registration cards for the whole of the ensuing year. Failure to comply with this rule will be treated as late registration and a fee of three dollars will be charged. All new students must present at or before the time of registration all credentials necessary for admission as candidates for a degree or as special students.

In May of each year all undergraduates in residence, whether candidates for a degree or special students, must obtain at the Registrar's office registration cards which must be filled out with a statement of the courses elected for the whole of the ensuing year and returned not later than June 1. Failure to comply with this rule will be treated as late registration and a fee of three dollars will be charged. *Before filing their registration cards at the office, members of the Sophomore class who are candidates for the degree of Bachelor of Philosophy must comply with the requirements for concentration.* See pages 56, 57.

When semester courses are grouped in one paragraph (*e.g.* Biology 1, 2), they constitute a year course and neither semester may be elected independently unless specific statement to the contrary is made. In starred courses a final mark will be given at the end of the course, the mark given at the end of the first semester being regarded as temporary.

Changes in registration will be allowed only on presentation of sufficient reasons to the Committee on Registration and Attendance. Requests for permission to make changes in September should be sent to the Registrar before September 7, if possible. Requests for permission to make changes for the second semester must be presented to the Registrar before the beginning of the examinations of the first semester, unless these requests are the result of

failures, in which case they must be presented in writing to the Registrar two days before the opening of the second semester.

The Committee on Registration and Attendance will be in session at the Administration Building between 9 a.m. and 1 p.m. and between 2.30 p.m. and 5 p.m. on the two days preceding the opening of the first semester, and on the day preceding the opening of the second semester.

ENROLMENT. All students must report at the Registrar's office between 9 a.m. and 1 p.m. or between 2.30 p.m. and 5 p.m. on one of the two days preceding the opening of each semester and have their names checked as enrolled. Failure to report will be treated as late enrolment and a fee of three dollars will be charged.

REGISTRATION AND ENROLMENT OF GRADUATE STUDENTS

On or before the first day of the academic year, every candidate for registration as a graduate student must file an application with the Dean of the Graduate Department naming the departments, not exceeding three, which he wishes to enter. The application must be made on a blank provided by the Dean, and the blank must be signed by the heads of the departments concerned. The candidate, if not a student or graduate of Brown University, must submit to the Dean, with his application, his diploma or other official evidence of having received a first academic degree, together with a marked catalogue or detailed statement showing the academic courses he has pursued.

At the beginning of each semester, every graduate student must enrol at the Registrar's office before entering any classes. At the beginning of the first semester, an authorization blank signed by the Dean of the Graduate Department must be presented. At the beginning of the second semester, an authorization blank will not be required unless a change in courses is made.

A student who has been registered as a graduate student is enrolled as a candidate for a degree when his course of study for the degree has been approved by the Dean of the Graduate Department and by the Faculty. Although graduates of other colleges of good standing are entitled to registration as graduate students, they are not enrolled as candidates for degrees unless the course of study previously pursued by them is, in the opinion of the Dean of the Graduate Department, acting in consultation with the Committee on Registration and Attendance, substantially equivalent to the course leading to the corresponding degree in Brown University. Graduates of colleges in which the course of study is not, in the opinion of this joint committee, equivalent to the corresponding course at Brown University, will be registered as graduate students, but if enrolled, they will be required to make up their deficiency under the direction of the committee.

Candidates for advanced degrees must have their selection of courses approved by the heads of the departments in which they are working, and a statement of these courses must be submitted by the heads of the departments to the Dean of the Graduate Department on or before October 15. In the case of candidates for the degree of Doctor of Philosophy, the statement submitted in the first year of candidacy may be a preliminary outline of the course, but a final statement must be submitted by the head of the department in which the major subject lies not later than October 15 in the last year of candidacy. No change can be made without the consent of the Dean of the Graduate Department and of the head of the department which offers the course.

Graduates of Brown University who have to their credit work done as undergraduates and not counted towards the bachelor's degree may offer such work in partial fulfilment of the requirements for an advanced degree, provided such work is in courses which may be taken by graduates and does not lie in more than three departments, and provided the student has completed the work with an average grade of *B*.

When graduate students pursue courses designed for graduates and undergraduates, an average grade of *C* will be required, if the courses are to count toward an advanced degree.

Only such courses will be counted in satisfaction of the requirements for the degree of Master of Arts as have been approved by the Committee on the Curriculum.

REQUIREMENTS FOR DEGREES

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REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

I. PRESCRIBED SUBJECTS

Ancient Languages (either Latin or Greek, or both). Six hours. At least three hours must be taken in the Freshman year, and the six hours must be completed by the end of the Sophomore year.

French or German. Six or more hours. Including the amount presented for admission, every student must complete before graduation at least four years' work in French or four years' work in German. A minimum of six hours must be taken in college, of which at least three hours must be taken in the Freshman year. Students who present the full entrance requirement in both Greek and Latin and who elect six hours of Greek and Latin in college will not be required to take more than six hours of modern language in college.

Mathematics. Three hours. Freshman year.

English (Rhetoric and Composition). Three hours. First semester, Freshman year. Three hours. Second semester, Sophomore year.

English Literature. Three hours. Second semester, Freshman year. First semester, Sophomore year.

European History. Three hours. Sophomore or Junior year.

Physical or Natural Science. Some three-hour course continuous through the year. Freshman, Sophomore, or Junior year.

Economics and either Social or Political Science. Three hours. Sophomore, Junior, or Senior year.

Philosophy. Some three-hour course continuous through the year. Sophomore, Junior, or Senior year.

II. REQUIREMENTS ARRANGED BY YEARS

FRESHMAN YEAR

I. REQUIRED STUDIES. *Latin* or *Greek*, three hours; *French* or *German*, three hours; *Mathematics*, three hours; *English*, three hours.

II. ELECTIVE STUDIES. One three-hour course continuous through the year must be chosen from the following list: *Latin, Greek, French, German, Chemistry, Physics, Botany, Biology, Geology, Mechanical Drawing*.

SOPHOMORE YEAR

That portion of the required work in ancient languages, modern languages, and English, not completed in the Freshman year, and other required and elective courses sufficient to make a total of fifteen hours a week.

JUNIOR YEAR

The required History and Physical or Natural Science, if not previously taken, and other required and elective courses sufficient to make a total of fifteen hours a week.

SENIOR YEAR

All required courses not previously taken, and elective courses sufficient to make a total of fifteen hours a week.

REQUIREMENTS FOR THE DEGREE OF
BACHELOR OF PHILOSOPHY

I. PRESCRIBED SUBJECTS

A continuous course of three hours through the year in each of the following subjects:

Mathematics. This subject may be omitted by students who intend to take Argumentation in the Sophomore year. Freshman year.

English (Rhetoric and Composition). First semester, Freshman year. Second semester, Sophomore year.

English Literature. Second semester, Freshman year. First semester, Sophomore year.

French or German. Including the amount presented for admission, every student must complete before graduation at least four years' work in French or four years' work in German. At least three hours must be taken in the Freshman year.

Biology. Freshman or Sophomore year.

Physics, Chemistry, Geology, or Astronomy. This requirement does not apply to students who presented Physics and Chemistry for admission. *Chemistry*, or *Geology*, or *Physics*, Freshman or Sophomore year. *Astronomy*, Sophomore year. Only one of this group required.

Classical Civilization (Greek 15, Latin 16). Freshman or Sophomore year. Freshman year for students who do not take Mathematics.

European History. Freshman, Sophomore, or Junior year.

Philosophy. Sophomore, Junior, or Senior year.

Economics and either Social or Political Science. Sophomore, Junior, or Senior year.

Argumentation (English 7, 8) (for students who did not take Mathematics in the Freshman year). Sophomore year.

II. REQUIREMENTS ARRANGED BY YEARS

FRESHMAN YEAR

I. REQUIRED STUDIES. *English; French or German; Mathematics* (for students who do not intend to take Argumentation in the Sophomore year); *Classical Civilization* (for students who do not take Mathematics); *Biology, Chemistry, Geology, or Physics.*

II. ELECTIVE STUDIES. One three-hour course continuous through the year must be chosen from the following list: *Latin, Greek, French, German, Classical Civilization, History, Chemistry, Physics, Botany, Biology, Geology, Mechanical Drawing.*

SOPHOMORE YEAR

That portion of the required work in modern languages not completed in the Freshman year.

Biology; for students who did not take this course in the Freshman year.

Physics, Chemistry, Astronomy, or Geology; for students who did not present both Physics and Chemistry for admission or take a course in Physical Science in the Freshman year.

Argumentation; for students who did not take Mathematics in the Freshman year.

Classical Civilization; for students who did not take this subject in the Freshman year.

English.

Other required and elective courses sufficient to make a total of fifteen hours a week.

JUNIOR YEAR

The required History, if not previously taken, and other required and elective courses sufficient to make a total of fifteen hours a week.

During the Junior and Senior years a student must take at least four courses outside the department chosen for special work. See Requirements for Concentration, pages 56, 57.

SENIOR YEAR

All required courses not previously taken, and elective courses sufficient to make a total of fifteen hours a week.

III. REQUIREMENTS FOR CONCENTRATION

At the close of the Sophomore year each candidate for the degree of Bachelor of Philosophy must choose from the following list a department in which he intends to do special work during the Junior and Senior years, and must elect at least three courses of three hours a year each in this department. If he has not already taken a three-hour year course in the department chosen, he must elect four courses. These courses must be selected in consultation with the head of the department and must be approved by him. When two departments are combined, the selection must be made in consultation with the head of the department first named.

At any time before the beginning of the Senior year a student may, with the approval of the Committee on Registration and Attendance, change the department in which he is to do his special work.

With the approval of the department in which the student is doing special work, he may count as the equivalent of one course, work which does not require regular class-room attendance.

LIST OF DEPARTMENTS IN WHICH SPECIAL WORK MAY BE TAKEN

Art.

Art, and Greek Literature and History.

Art, and Roman Literature and History.

Art, and Music.

Art, and History.

Astronomy.

Astronomy, and Civil Engineering.

Astronomy, and Physics.

Astronomy, and Mathematics.

Astronomy, and Geology.

Biblical Literature and History.

Biblical Literature and History, and Greek Literature and History.

Biblical Literature and History, and Philosophy.

Biology.

Botany.

Botany, and Biology.

Chemistry.

Civil Engineering.

Economics.

Education.

Education, and Philosophy.

Education, and Social and Political Science.

Education, and History.

Electrical Engineering.
 English.
 Geology.
 Germanic Languages and Literatures.
 Greek Literature and History.
 Greek Literature and History, and Roman Literature and History.
 Greek Literature and History, and Biblical Literature and History.
 Greek Literature and History, and Indo-European Philology.
 Greek Literature and History, and Art.
 History.
 Mathematics.
 Mechanical Engineering.
 Mechanics and Mechanical Drawing.
 Mechanics, and any Engineering department.
 Philosophy.
 Physics (exclusive of Electrical Engineering).
 Roman Literature and History.
 Roman Literature and History, and Art.
 Roman Literature and History, and Greek Literature and History.
 Roman Literature and History, and Indo-European Philology.
 Romance Languages and Literatures.
 Social and Political Science.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING

For Students who entered before 1914

FRESHMAN YEAR

<i>First Semester</i>	<i>Second Semester</i>
Mathematics 17	Mathematics 18
Mathematics 13	Mathematics 16
Mech. Drawing 1	Mech. Drawing 2
English 1	English 2

and two of the following courses, Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Civil Engineering.

BROWN UNIVERSITY

SOPHOMORE YEAR

First Semester

Mathematics 19
 Mech. Drawing 3
 Civil Engineering 1
 Physics 27
 ‡ Social Science

Second Semester

Mathematics 20
 Mech. Drawing 4
 Civil Engineering 2
 Physics 23
 ‡ Economics 1
 § Civil Engineering 4
 Civil Engineering 6

JUNIOR YEAR

Civil Engineering 7
 Mechanics 1
 Geology 3
 Physics 21
 Astronomy 5
 || Elect. Engineering 3

Civil Engineering 8
 Mechanics 2
 Geology 4
 Physics 22
 Civil Engineering 10
 Civil Engineering 12
 || Civil Engineering 24
 || Civil Engineering 26
 || Civil Engineering 28

SENIOR YEAR

Civil Engineering 9
 Civil Engineering 13
 Civil Engineering 15
 Civil Engineering 19
 Civil Engineering 35
 || Mech. Engineering 19

Mechanics 3

Civil Engineering 20
 Civil Engineering 22
 Civil Engineering 30
 Civil Engineering 32
 Civil Engineering 34
 Civil Engineering 36
 || Mech. Engineering 20
 Mech. Engineering 24
 Mechanics 4

‡ Or some year course in the Department of English, or History, or Philosophy, chosen with the approval of the head of the Department of Civil Engineering.

§ Civil Engineering 4 is taken during the spring recess.

|| Seniors who have taken Mechanical Engineering 19, 20 will take Electrical Engineering 3 and Civil Engineering 24, 26, 28.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING

For Students who enter in 1914 or after

FRESHMAN YEAR

First Semester

Mathematics 13
Mathematics 17
Mech. Drawing 1
English 1

Second Semester

Mathematics 16
Mathematics 18
Mech. Drawing 2
Civil Engineering 2

and two of the following courses, Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Civil Engineering.

SOPHOMORE YEAR

Mathematics 19
Physics 27
Mech. Drawing 3
‡ Economics 1
§ Civil Engineering 1
Civil Engineering 3
Civil Engineering 5

Mathematics 20
Physics 28
English 2
‡ Soc. or Pol. Science 1
|| Civil Engineering 4
Civil Engineering 6
Civil Engineering 12

JUNIOR YEAR

Civil Engineering 7
Mechanics 1
Geology 3
Physics 21
Astronomy 5
Elect. Engineering 3

Civil Engineering 16
Mechanics 2
Geology 4
Physics 22
Civil Engineering 10
Civil Engineering 14
Civil Engineering 26

SENIOR YEAR

Mech. Engineering 19
Mech. Engineering 15

Mech. Engineering 20
Mech. Engineering 24

‡ Or some year course in the Department of English, or History, or Philosophy, chosen with the approval of the head of the Department of Civil Engineering.

§ Civil Engineering 1 is taken in September during the two weeks preceding the opening of college.

|| Civil Engineering 4 is taken during the spring recess.

<i>First Semester</i>	<i>Second Semester</i>
Mechanics 3	Mechanics 4
Civil Engineering 37	Civil Engineering 38
Civil Engineering 45	Civil Engineering 40
‡ Option	Civil Engineering 34
	Civil Engineering 42 or 46
	‡ Civil Engineering 36

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

For Students who entered before 1914

FRESHMAN YEAR

<i>First Semester</i>	<i>Second Semester</i>
Mathematics 17	Mathematics 18
Mathematics 13	Mathematics 16
Mech. Drawing 1	Mech. Drawing 2
English 1	English 2

and two of the following courses: Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Electrical Engineering.

SOPHOMORE YEAR

Mathematics 19	Mathematics 20
Mech. Drawing 3	Mech. Drawing 4
Physics 27	Physics 28
§ Soc. or Pol. Science 1	§ Economics 1
Mech. Engineering 1	Mech. Engineering 2
An elective course	Mech. Engineering 8

‡ In special cases, subject to the approval of the head of the Department of Civil Engineering, the courses in Engineering or Science may be substituted for thesis.

§ Or some other course, not technical, chosen with the approval of the head of the Department of Electrical Engineering.

|| A three-hour course chosen with the approval of the head of the Department of Electrical Engineering.

JUNIOR YEAR

First Semester

Mechanics 1
Elect. Engineering 1
Mech. Engineering 3
Mech. Engineering 9
Mech. Engineering 15
Physics 21

Second Semester

Mechanics 2
Elect. Engineering 2
Elect. Engineering 8
Mech. Engineering 10
Mech. Engineering 16
Physics 22

SENIOR YEAR

Mechanics 3
Mathematics 9
Physics 23
Mech. Engineering 15
Elect. Engineering 9
Elect. Engineering 7
Elect. Engineering 19

Mechanics 4
Mech. Engineering 24
Physics 14
Mech. Engineering 16
Elect. Engineering 10
Elect. Engineering 14
Elect. Engineering 18
Elect. Engineering 20
Civil Engineering 26

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF
SCIENCE IN ELECTRICAL ENGINEERING

For Students who enter in 1914 or after

FRESHMAN YEAR

First Semester

Mathematics 17
Mathematics 13
Mech. Drawing 1
English 1

Second Semester

Mathematics 18
Mathematics 16
Mech. Drawing 2
English 2

and two of the following courses: Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Electrical Engineering.

SOPHOMORE YEAR

Mathematics 19
Physics 27

Mathematics 20
Physics 28

BROWN UNIVERSITY

First Semester

Physics 21
 ‡ Soc. or Pol. Science 1
 Mech. Drawing 3
 Mech. Engineering 1

Second Semester

Physics 22
 ‡ Economics 1
 Mech. Engineering 8
 Mech. Engineering 2

JUNIOR YEAR

Mechanics I
 Elect. Engineering 1
 Elect. Engineering 5
 Mathematics 9
 Mech. Engineering 9
 Mech. Engineering 15
 Mech. Engineering 3

Mechanics 2
 Elect. Engineering 2
 Elect. Engineering 6
 Elect. Engineering 8
 Mech. Engineering 10
 Mech. Engineering 16

SENIOR YEAR

Mechanics 3
 Physics 23
 Elect. Engineering 9
 Elect. Engineering 11
 Elect. Engineering 17
 Elect. Engineering 19
 Mech. Engineering 19

Mechanics 4
 Mech. Engineering 24
 Civil Engineering 18
 Elect. Engineering 14
 Elect. Engineering 16
 Elect. Engineering 18
 Elect. Engineering 20
 Mech. Engineering 20
 Civil Engineering 26
 § An elective course

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

FRESHMAN YEAR

First Semester

Mathematics 17
 Mathematics 13
 Mech. Drawing 1
 English 1

Second Semester

Mathematics 18
 Mathematics 16
 Mech. Drawing 2
 English 2

and two of the following courses, Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration

‡ Or some other course, not technical, chosen with the approval of the head of the Department of Electrical Engineering.

§ A three-hour course chosen with the approval of the head of the Department of Electrical Engineering.

and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Mechanical Engineering.

SOPHOMORE YEAR

<i>First Semester</i>	<i>Second Semester</i>
Mathematics 19	Mathematics 20
Mech. Drawing 3	Mech. Drawing 4
Physics 27	Physics 28
‡ Soc. or Pol. Science 1	‡ Economics 1
Mech. Engineering 1	Mech. Engineering 2
§ An elective course	Mech. Engineering 8

JUNIOR YEAR

Mech. Engineering 17	Mech. Engineering 18
Mech. Engineering 15	Mech. Engineering 16
Mech. Engineering 3	Mech. Engineering 4
Mech. Engineering 9	Mech. Engineering 10
Mechanics 1	Mechanics 2
Physics 5	Physics 6

SENIOR YEAR

Mech. Engineering 21	Mech. Engineering 22
Mech. Engineering 5	Mech. Engineering 14
Mech. Engineering 19	Mech. Engineering 20
Mechanics 3	Mechanics 4
Elect. Engineering 1	Elect. Engineering 2
Mech. Engineering 11	Mech. Engineering 12
	Mech. Engineering 24
Mech. Engineering 25	Mech. Engineering 26
	Civil Engineering 18
	Civil Engineering 26

NOTE. For students who enter in 1914 or after, the elective course and Mechanical Drawing 4 will be dropped from the Sophomore year and Physics 5, 6 will be required. Electrical Engineering 1, 2 will be required in the Junior year. A three-hour elective course, through the year, chosen with the approval of the head of the Department of Mechanical Engineering, will be added in the Senior year.

‡ Or some year course in the Department of English, or History, or Philosophy, chosen with the approval of the head of the Department of Mechanical Engineering.

§ A three-hour course chosen with the approval of the head of the Department of Mechanical Engineering.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

To obtain the degree of Master of Arts, the candidate must complete a course of liberal graduate study of not less than fifteen hours a week for one year. When graduate students pursue courses primarily designed for undergraduates, a higher degree of scholarship than in the case of undergraduates will be required.

Work done in residence for an advanced degree at another institution, and not to be used in fulfilment of the requirements for an advanced degree elsewhere, may, with the approval of the Dean of the Graduate Department, be offered in partial fulfilment of the requirements for the degree of Master of Arts; but the equivalent of at least nine hours' work a week for one year must be done at Brown University.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE

To obtain the degree of Master of Science, the candidate must complete a course of scientific study satisfactory to the Dean of the Graduate Department and the departments concerned, of not less than fifteen hours of work a week for one year, and must present a thesis in one of the graduate courses which he is pursuing; in place of the thesis a six-hour graduate laboratory course extending through the year may be accepted. All the work must be in one or more of the following subjects: mathematics, engineering, physics, chemistry, astronomy, the biological sciences, psychology, geology, and mineralogy. At least half the work must be in courses designed wholly or primarily for graduates; the remainder may consist of any courses satisfactory to the departments concerned and to the Dean of the Graduate Department.

All the work must be done in residence at Brown University with the exception that work done for the degree of Master of Science at another institution, and not to be used in fulfilment of the requirements for any degree elsewhere, may, with the approval of the Dean of the Graduate Department and the departments concerned, be accepted in partial fulfilment of the requirements for the degree of Master of Science to the extent of not more than six hours of work a week for one year.

REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY†

To obtain the degree of Doctor of Philosophy, the candidate must spend at least two years continuously in residence, pursuing a systematic course of advanced study approved by the Graduate Department, the Faculty, and the Board of Fellows, and must pass satisfactory examinations thereon. The candidate must conclude his course with a thesis embodying the results of original research, giving evidence of high scholarship and of special attainments in the studies pursued, and constituting as a whole a definite contribution to knowledge. The candidate is examined publicly before June 1 by a committee consisting in each case of the Graduate Department, together with those members of the Faculty who have directed his work and any other officers of professorial rank in the departments concerned. The examination is held only when notification of the intention to appear for examination is given on or before April 1 of the year in which the candidate desires to obtain his degree. The thesis must be presented to the Faculty, in typewritten copy or print, before May 1 in that year. The approval of this thesis by the Faculty is essential to the attainment of the degree.

Work done in residence for the degree of Doctor of Philosophy at another institution, and not to be used in fulfilment of the requirements for an advanced degree elsewhere, may, with the approval of the Dean of the Graduate Department, be offered in partial fulfilment of the requirements for the degree of Doctor of Philosophy. One full year of continuous work, consisting of at least one-half of the minimum requirements for the major and one-half of the minimum requirements for the minor, must be spent at Brown University.

For the degree of Doctor of Philosophy at least two subjects are necessary, a major and a minor, not in the same department; the major subject must constitute not less than three-fifths of the candidate's work. The selection of the courses constituting the major and the minor subjects must receive the approval of the head of the department in which the major subject lies, and of the Dean of the Graduate Department. The approval of the head of the department in which the minor subject lies is also necessary for the courses elected in his department.

The candidate must possess a reading knowledge of Latin, German, and French adequate for the purposes of his special studies, unless for sufficient reasons he is excused in respect to one of these languages. To test the candidate's proficiency in this particular, he is examined before December 1 in the last year of his candidacy by a committee consisting of the heads of the departments in which the major and the minor subjects lie, and the heads of the departments of Latin, German, and French.

† As a rule the requirements for this degree, including the thesis, cannot be satisfied in less than three years.

A year of work for the degree of Master of Arts may be, but is not necessarily, counted as a year of work for the degree of Doctor of Philosophy. Whenever the undergraduate degree and the degree of Master of Arts are taken at the same time the work done for the degree of Master of Arts will not be counted in fulfilment of the requirements for the degree of Doctor of Philosophy.

REGULATIONS UNDER WHICH A STUDENT MAY TAKE A FIRST DEGREE IN LESS THAN FOUR YEARS

A candidate for a first degree who has maintained a satisfactory standing in his studies may, with the consent of the Committee on Registration and Attendance, take work in addition to the regular number of hours prescribed in the curriculum of the course which he is pursuing.

A student who at the beginning of his Senior year lacks less than thirty semester hours of completing his course may, with the consent of the Committee on Registration and Attendance, distribute his work over the year.

A student who at the beginning of any semester lacks less than fifteen semester hours of completing his course may, for reasons deemed sufficient by the Committee on Registration and Attendance, be excused from taking more than the necessary number of hours.

A candidate for a first degree, who has credit for the required number of hours of work, including all the required subjects, may, at the end of the semester in which his work is completed, be excused from further attendance at the University, and may receive his degree at the Commencement next following such semester.

A candidate for a first degree may receive credit for work done at the summer school of an approved institution of collegiate rank, provided that the work have the approval of the head of the corresponding department in Brown University. The amount of credit given at the institution in question will be given at Brown University, but the total credit for work at a summer school in any one summer shall not exceed nine semester hours. Written applications for such work must be filed at the Registrar's office before the annual Commencement on blanks provided for the purpose.

A candidate for a first degree may, with the consent of the head of a department and with the approval of the Faculty, pursue studies connected with that department during any summer in which he does not attend a summer school, and may receive credit for such studies, provided that the work be done under the supervision of the head of the department concerned and that the candidate pass an examination in all the work before the beginning of the next academic year. The amount of credit will be determined by the head of the department, but the total credit for any one summer shall not exceed six semester hours. Applications for such work must be approved by the head of the depart-

ment concerned, and must be filed at the Registrar's office before June 1, on blanks provided for the purpose. A student will not be allowed to do summer work in connection with any department of the University until he has presented to the head of the department a registration card signed by the Registrar.

For conditions under which graduate work may be pursued during the Senior year, see page 49, under "Admission of Graduate Students."

ATTENDANCE, STANDING, AND EXAMINATIONS

ATTENDANCE. Every student is required to attend every session of the classes in which he is registered, including gymnasium, and also the daily Chapel service.

STANDING. A record is kept of the attendance of every student and of his proficiency in his several studies. At the close of each semester a report is sent to the parent or guardian of every undergraduate student containing a record of all his absences from required exercises, and indicating his standing in each of his studies for the semester and his deficiency in any study or studies, if any deficiency exists. A student who has failed in three or more courses in any semester, counting for more than eight hours a week, cannot continue his work without the permission of the Committee on Registration and Attendance.

There are four pass grades : A, B, C, D. No student will be allowed to graduate who has not attained a grade above D in at least sixty semester hours of college work.

E is assigned to those who have failed to pass ; or to those whose work during the semester has been so unsatisfactory that, in the opinion of the instructor, they should not be allowed an examination ; or to those who, in a laboratory course, have not completed half the work required.

O is assigned to those who have been absent one-half the time in a course, or to those whose absence from the examination is not excused by the Dean.

A student who receives the mark E in a required course must repeat the course again in class, or make up the deficiency to the satisfaction of the department concerned, by work at an approved summer school. If the failure is in an elective course, he may substitute some other course, if approved by the Committee on Registration and Attendance, or he may take an equivalent amount of approved summer work.

I is assigned to those whose semester work is incomplete, but satisfactory so far as done. All incomplete work must be made up before the middle of the following semester unless special permission for extension of time is given by the Committee on Registration and Attendance. If this requirement is not met, the mark will be changed to E.

Abs. is assigned to those who were absent from examination, unless E has already been assigned.

A student whose semester work is incomplete and who is absent from the examination is assigned the marks I and Abs.

A student who, in any semester, has failed in three or more courses counting for more than eight hours a week, will not be registered again without special action of the Committee on Registration and Attendance.

EXAMINATIONS. All classes are examined at the close of each semester. A student is not admitted to the examination in a study in which he has received the mark E or O.

Examinations other than the regular semester examinations are given only in the cases of students who have received the mark Abs. and whose absences have been excused by the Dean, and candidates for advanced standing.

A student is not admitted to a special examination except on written authorization from the Registrar. If the examination is taken to remove the mark Abs., the student must pay to the Registrar a fee of two dollars.

Special examinations upon the work of the first semester are given only during the following spring recess. Special examinations upon the work of the second semester are given only in the following September on as many days as may be necessary preceding the opening of the academic year, except that special examinations on the work of the second semester of the Senior year are given on the Saturday and Monday after the examination period in June.

Students desiring special examinations in the second semester must make application to the Registrar not later than March 1, specifying the subjects in which examinations are desired. On or before March 15 a schedule of special examinations will be posted. Students desiring special examinations in September must make application to the Registrar not later than August 15, specifying the subjects in which examinations are desired. A schedule of the September examinations is sent about September 1 to the students concerned.

Special examinations at times other than those scheduled are allowed only by consent of the Committee on Registration and Attendance.

Special examinations for advanced standing are, so far as possible, arranged at the times assigned for other special examinations.

EXAMINATIONS IN ENTRANCE CONDITIONS. Members of the Freshman class who enter with conditions in English *a*, English *b*, Algebra, or Plane Geometry are required to take regular instruction in these subjects during the Freshman year under a tutor approved by the department concerned. A special examination will be given on completion of the work, but in no case before the close of the Christmas recess.

Students who enter with conditions in Language, Science, History, Solid Geometry, Plane Trigonometry, or Advanced Algebra, must remove these conditions, by examination, before the beginning of the Sophomore year; otherwise such conditions will be regarded as deficiencies in college work and the students required to take extra courses in the departments in which the deficiencies occur, the amount and selection of the courses to be determined by the Committee on Registration and Attendance in consultation with the departments.

Students who fail to meet the entrance requirements in English or Mathematics before the beginning of the Junior year shall not be allowed to regis-

ter until these deficiencies have been removed. This rule applies to students entering in 1914.

For members of the Freshman class, special entrance examinations are given by the University at the close of the Christmas recess in all subjects except English, Algebra, and Plane Geometry. Students desiring to take these examinations must file written applications with the Registrar before December 1. No student who has failed in an entrance examination will be granted a second examination at any time other than September, except on presentation of a tutor's certificate that he is prepared for such examination, and on payment of a fee of two dollars. No entrance examinations other than those appointed above will be held unless ordered by the Committee on Registration and Attendance.

COURSES OF INSTRUCTION

WHEN semester courses are grouped in one paragraph (e.g. Biology 1, 2), they constitute a year course and neither semester may be elected independently unless specific statement to the contrary is made. In starred courses a final mark covering the work of the course as a whole is given at the end of the course, the marks given at the end of the first semester being regarded as temporary. When the time of meeting is not announced, it will be arranged by the instructor at the beginning of the semester.

I. ART†§

WILLIAM CAREY POLAND, A.M., LITT.D., *Professor of the History of Art*

1, 2. *History of Art from Antiquity through the Renaissance*

First semester, ancient art, chiefly Greek and Roman. Second semester, Early Christian, Byzantine, Romanesque, and Gothic art, and the art of the fifteenth and sixteenth centuries; the effect on art of the dominant motives of the epoch, the development of art in the different countries of Europe, the great masters and their most significant works. Text-book, lectures, lantern views.

Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Either semester may be elected independently. *Mon., Wed., Th., at 10.20.*

3, 4. *Modern Art, and Theory and Criticism of the Fine Arts*

First semester, the seventeenth and eighteenth centuries. Second semester, the nineteenth century, with a study of the more important facts and laws of artistic production. Text-book, lectures, special assigned topics, lantern views.

Three hours. Through the year. Course 3 is elective for students who have completed 2. Course 4 is elective for students who have completed 1, or 2, or 3. *Mon., Th., Fri., at 9.20.*

5,* 6.* *Renaissance Art, Advanced Course*

Critical study of the art of the fifteenth and sixteenth centuries, particularly Italian. A more detailed study of the spiritual conditions, the influences, and the masters, than in 2.

† For arrangements with the Rhode Island School of Design, see page 168.

§ Graduate students who elect courses 1, 2, or 3, 4, or 17, 18 will be expected to do a reasonable amount of work in addition to what is assigned to Undergraduates.

Three hours. Through the year. Elective by written consent of the instructor for students who have credit for 2. *Tu., Th., Sat., at 12.20.*

7, 8. *Seminary in Greek and Roman Sculpture*

An archaeological course based on Overbeck's *Schriftquellen*.

Three hours. Through the year. Elective for Graduates who read Greek and Latin. It is advised that application be made to Professor Poland at an early date.

[9. *Seminary Study of the Acropolis of Athens*]

Critical reading, in Greek, of Pausanias' account of the Acropolis of Athens; lectures and illustrations.

Three hours. First semester. Elective for Graduates who read Greek and Latin. Not offered in 1914-15.

[10. *Seminary in Classical Architecture*]

Critical study; reading of Vitruvius in Latin; discussion of the principles followed by the Greek and Roman architects, and of the influence of Vitruvius upon the Renaissance.

Three hours. Second semester. Elective for Graduates. Offered if three or more elect the course. Not offered in 1914-15.

15,* 16.* *Freehand Drawing*

Training of hand and eye by study in charcoal and pencil of casts and still-life objects.

One hour. Two hours of drawing. Through the year. Elective for Undergraduates. Given at the Rhode Island School of Design. Hours to be arranged with the Director.

17,* 18.* *Advanced Drawing*

Three hours. Six hours of drawing, or four hours of drawing and one hour lecture on Historic Ornament. Through the year. Elective for students who have credit for or are taking 1, 2, and who have credit for 15, 16. Given at the Rhode Island School of Design. *Mon., Tu., Wed., at 2.* Lecture hour to be arranged with the Director.

II. ASTRONOMY

_____, *Professor of Astronomy*

ROLAND GEORGE DWIGHT RICHARDSON, PH.D., *Acting Director of the Ladd Observatory*

CLINTON HARVEY CURRIER, A.M., *Instructor in Astronomy*

JOHN EDWARDS, *Assistant in the Ladd Observatory*

1, 2. *General Course*

Designed for general culture and preparation for technical work. Fundamental conceptions; methods of professional study. First semester, chief topic: the movements of the heavenly bodies. Second semester, chief topics: the physical condition of the heavenly bodies; the sidereal universe. *Mr. CURRIER.*

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors who have credit for Mathematics 2. *Mon., Wed., Th., at 10.20.* Observations at Ladd Observatory.

5. *Field Astronomy*

The astronomical problems of geodesy: azimuth, time, latitude, longitude. Computations and observations. *Mr. CURRIER.*

Four hours. First semester. Required of candidates for the degree of Bachelor of Science in Civil Engineering. Elective for Juniors and Seniors who have credit for Mathematics 16. *Mon., Tu., Th., Fri., at 2.20.* Observations at Ladd Observatory.

[7, 8. *Advanced Astronomy*]

Designed for students who wish to specialize in Astronomy.

Three hours. Through the year. Elective for approved students who have credit for 1, 2. Not offered in 1914-15.

[9, 10. *Research Course*]

Special advanced work. Subjects arranged to meet the requirements of individual students.

Elective for Graduates and approved Undergraduates. Not offered in 1914-15.

III. BIBLICAL LITERATURE AND HISTORY†

HENRY THATCHER FOWLER, PH.D., *Professor of Biblical Literature and History*

NATHAN STERN, PH.D., *Lecturer in Biblical Literature and History*

LANGUAGES

1, 2. *Elementary Hebrew*

Grammar; exercises in writing Hebrew; translation of parts of Genesis and Deuteronomy. *Dr. STERN.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates.

3, 4. *Historical Hebrew*

Reading of the books of Samuel and Kings with special attention to the acquisition of a vocabulary; review of the elements of Hebrew grammar and study of syntax. *Dr. STERN.*

Three hours. Through the year. Elective for students who have credit for 1.

5, 6. *Hebrew Literature*

Psalms literature. Critical translation of the lyric poetry of the Old Testament; investigation of the characteristics and development of Hebrew poetry. In succeeding years corresponding courses in the Wisdom, Legal, and Prophetic literature of the Old Testament will be offered. *Professor FOWLER.*

Three hours. Through the year. Elective for Graduates and approved Undergraduates.

7. *Textual Criticism of the Old Testament*

The principles and method of textual criticism, in connection with the study of one of the shorter prophetic books. *Dr. STERN.*

Three hours. One semester. Offered if applied for by Graduates.

8. *Biblical Aramaic*

Grammar and reading of the Aramaic portions of the Old Testament. *Dr. STERN.*

Three hours. One semester. Offered if applied for by students who have credit for 1.

† For conditions under which students may receive credit in the Newton Theological Institution for work done in this department, see page 168.

9, 10. *Elementary Arabic*

Grammar; exercises in writing Arabic; translation of prose selections. *Professor FOWLER.*

Two hours. Through the year. Elective for Seniors and Graduates.

[11, 12. *Gospels and Epistles*]

First semester, the Gospel and Epistles of John, the Gospel of Mark. Second semester, the Gospels of Matthew and Luke.

Not offered in 1914-15.

13, 14. *Acts and Pauline Epistles*

Characteristics of Hellenistic Greek; translation, and investigation of date, authorship, and thought. First semester, Acts and Thessalonians. Second semester, Galatians, Corinthians, and Romans. *Professor FOWLER.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Either semester may be elected independently. *Wed., Fri., Sat., at 11.20.*

LITERATURE AND HISTORY IN ENGLISH‡

15, 16. *Old Testament Literature and History*

Includes nearly the entire Old Testament literature and history. Emphasis placed upon the connection between the literature and the history. In connection with course 17, 18, gives a comprehensive view of Biblical literature and history. The books are read in the best English translations. First semester, early Semitic history, Hebrew literature and history to the close of the United Kingdom. Second semester, Hebrew and Jewish literature and history from the division of the kingdom to the conquest of Alexander. *Professor FOWLER.*

Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Either semester may be elected independently. *Mon., Wed., Th., at 10.20.*

[17, 18. *New Testament Literature and History*]

Includes a large part of the Jewish writings from the conquest of

‡ Course 19, 20 gives a rapid survey of the Bible as a part of the world's literature. It is designed especially for those who do not expect to pursue further courses in this department. Courses 15, 16 and 17, 18 are introductory to more detailed courses in the University or the Theological Seminary. They are also designed for those who, without intending to specialize in this field, desire a comprehensive view of the nature and results of the historical as well as the literary study of the Bible.

Alexander to the destruction of Jerusalem, and the entire New Testament studied in its Jewish setting. Emphasis placed upon the connection between the literature and the history. In connection with course 15, 16, gives a comprehensive view of Biblical literature and history. The books are read in the best English translations. First semester, Jewish literature and history from the beginning of the Greek period to the destruction of Jerusalem, the Gospels and other sources for the life of Christ. Second semester, outline of the life of Christ, literature and history of the Apostolic age. *Professor FOWLER.*

Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Either semester may be elected independently. Not offered in 1914-15.

19, 20. *The English Bible as Literature*

An outline of the literary history of the Old and New Testaments; the literary forms represented in the Bible; the place of the Bible in English literature. Emphasis placed upon the literature itself and its connection with the present. Lectures and assigned readings from the English Bible. First semester, Old Testament literature from the beginning to the close of the Persian Age. Second semester, the completion of the Old Testament, and the New Testament literature. *Professor FOWLER.*

Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Either semester may be elected independently. *Mon., Tu., Th., at 11.20.*

21,* 22.* *Biblical Seminary*

Subject for 1914-15: Sunday-school Organization and Instruction. *Professor FOWLER.*

Three hours. Through the year. Elective for Graduates and approved Juniors and Seniors.

23. *Principles of Historical Criticism and Research*

The general principles of historical criticism and the literature of historical theory. *Professor FOWLER.*

One hour. One semester. Elective for Graduates of one year's standing. Required of all candidates for the degree of Doctor of Philosophy in Biblical Literature and History.

30. *History of Religion*

An outline study of the history of the principal religions of the world. This course is the same as course 30 offered by the Department of Philosophy. *Professors FOWLER and JONES.*

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates. *Mon., Wed., Fri., at 12.20.*

IV. BIOLOGY †

ALBERT DAVIS MEAD, PH.D., Sc.D., *Professor of Biology*

FREDERIC POOLE GORHAM, A.M., *Professor of Bacteriology*

HERBERT EUGENE WALTER, PH.D., *Associate Professor of Biology*

PHILIP HENRY MITCHELL, PH.D., *Assistant Professor of Physiology*

JOHN BURNHAM FERGUSON, A.B., M.D., *Demonstrator in Anatomy*

RALPH GIBNEY HURLIN, A.M., *Assistant in Biology*

1, 2. *General Biology*

The structure of animals and plants; elementary vital phenomena; the functions of organs; the development of organisms; classification. An outline of the more important biological theories, such as evolution, natural selection, variation, mutation and heredity, and the principles upon which modern hygiene and sanitation are based. The course will introduce the student to the use of the microscope, laboratory technic, and to scientific methods of observation and experiment. *Professor GORHAM.*

Three hours. Six hours of attendance. Through the year. Required in Freshman or Sophomore year of candidates for the degree of Bachelor of Philosophy. Elective for Undergraduates. Lectures, *Mon., Tu., Th., at 3.20.* Laboratory, *1st div., Mon., Tu., Th., at 2.20; 2d div., Tu., Th., Sat., at 12.20.*

3, 4. *Comparative Anatomy of Vertebrates*

Intended not only for the general student, but also for those who are particularly interested in zoölogy and for those who expect to study medicine. The structure and significance of the various organs of vertebrates with particular reference to man. Students are permitted to attend clinics and autopsies at the Rhode Island Hospital. Laboratory work and lectures. *Professor WALTER.*

† By written consent of the department 3, 4; 5, 6; 7, 8; 9, 10; 17, 18 may be elected for six hours.

Three hours. Six hours of attendance. Through the year. Elective for Sophomores, Juniors, and Seniors who have credit for 1, 2. *Mon., Wed., Fri., at 8.*

5, 6. *Anatomy of the Nervous System*

A study of the gross and microscopic anatomy of the brain, nerves, and sense organs in man and other vertebrates. Designed particularly for those intending to study medicine or psychology. *Professor MEAD.*

Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for 1, 2.

7, 8. *Embryology and Histology*

The origin of the individual and the developmental process from the egg to the adult; the material basis of heredity; the composition of the body and its organs from the viewpoint of its vital units, the cells. Practice in micro-technic. Adapted to the requirements of general students and of those intending to study medicine. *Professor MEAD.*

Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for 1, 2. *Tu., Th., Sat., at 8.*

9, 10. *Advanced Histology and Pathology*

Work in micro-technic and in normal and pathological histology. Adapted to individual requirements. *Professor MEAD.*

Three hours. Six hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 1, 2, and 7, 8.

11, 12. *General Physiology*

General vital processes in plants and animals; the more special phenomena in higher animals, with their application to human physiology. Designed not only as an introduction to further work, but also as a general view of physiology. Lectures and laboratory work. *Professor MITCHELL.*

Three hours. Six hours of attendance. Through the year. Must be preceded by 1, 2, and by Chemistry 1, 2. Elective for Juniors and Seniors, and for Sophomores who are not taking any other course in the department. *Mon., Tu., Th., at 3.20.*

13, 14. *Chemical Physiology*

The chemistry of proteins, carbohydrates, and fats; the physiology of the digestive system, with the study of secretions and of artificial salivary, gastric, and pancreatic digestions; examination of blood, bile, and urine; the analysis of foods, with special reference to milk.

Designed for those who are interested in physiology either from a medical or a general standpoint, and for those who are specializing in chemistry and desire a knowledge of vital chemical processes. *Professor MITCHELL.*

Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for or are taking Chemistry 7, 8. *Tu., Fri., Sat., at 10.20.*

15. *Invertebrate Zoölogy*

A study of the natural history of invertebrate animals, particularly marine forms, insects, and protozoa. Lectures with laboratory and field work. *Professor WALTER.*

Three hours. Six hours of attendance. First semester. Elective for Undergraduates. *Tu., Th., Sat., at 8.*

16. *Bacteriology*

A general discussion of bacteria in all their relations, with special attention in the laboratory to the methods of studying bacteria, including the isolation, systematic study, and determination of unknown species. Lectures and laboratory work. *Professor GORHAM.*

Three hours. Six hours of attendance. Second semester. Elective for Juniors and Seniors, and for Sophomores who are not taking any other course in the department. *Mon., Wed., Th., at 10.20.*

17, 18. *Advanced Bacteriology*

Practical work in the preparation of culture media; methods of sterilization and disinfection; qualitative and quantitative biological examination of water, milk, air, soil, and sewage; study of certain pathogenic organisms, with the determination of their pathogenic properties, and the methods of bacteriological diagnosis of disease. Laboratory work and seminary. *Professor GORHAM.*

Three hours. Six hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 16.

20. *Ornithology*

A study of birds regarded as a group of living animals, in relation to their environment. Lectures and early morning field trips for the identification of wild birds during their spring migration. *Professor WALTER.*

One hour. Two hours of attendance. Second semester. Elective for Undergraduates.

22. *Evolution*

The history of biology, principles of classification, geographical distribution, heredity, natural selection, variation, Mendelism, and the relationship of man to the lower animals. Designed particularly for those who have not studied biology. Lectures and assigned reading.

Professor MEAD.

Three hours. Second semester. Elective for Juniors and Seniors. *Wed., Fri., Sat., at 11.20.*

[24. *Physiology*]

A general survey of the activities of living organisms with special reference to the human body, including some applications of modern physiology to healthful living. Lectures and assigned reading.

Three hours. Second semester. Elective for Juniors and Seniors. Not offered in 1914-15.

31, 32. *Human Anatomy*

A course in practical dissection. Students are permitted to attend clinics and autopsies at the Rhode Island Hospital. *Dr. FERGUSON.*

Three hours. Through the year. Elective for Graduates.

33, 34. *Biological Research*

Research work arranged to meet the requirements of individual students. *Professor MEAD.*

Three to twelve hours. Through the year. Elective for Graduates.

35, 36. *Advanced Physiology*

Laboratory work and seminary. *Professor MITCHELL.*

Three to twelve hours. Through the year. Elective for Graduates who have sufficient knowledge of chemistry and physiology.

37, 38. *Bacteriological Research*

Research work arranged to meet the requirements of individual students. *Professor GORHAM.*

Three to twelve hours. Through the year. Elective for Graduates who have credit for 16 and 17, 18.

39, 40. *Biological Theories and Problems*

Seminary course. *Professor MEAD.*

One to three hours. Through the year. Elective for Graduates.

41, 42. *Zoölogical Seminary*

Reading and discussion of German zoölogical literature selected with reference to the needs of individual students. *Professor WALTER.*

One to three hours. Through the year. Elective for Graduates.

V. BOTANY

HARLAN HARVEY YORK, PH.D., *Assistant Professor of Botany*

JAMES FRANKLIN COLLINS, PH.B., *Demonstrator in Botany*

CARL BANTA GIBSON, A.B., *Assistant in Botany*

1, 2. *Plant Biology, General Course*

Designed not only as a general culture course, giving the student a definite conception of the vital importance of botany as related to modern life, but also as a preliminary training for those who contemplate further work in botany. The origin, development, structure, physiology, and classification of plants. A discussion of biological subjects of fundamental human interest, such as evolution, the origin of new species, and the general laws of inheritance in plants.

Three hours. Six hours of attendance. Through the year. Elective for Undergraduates. Lectures, *Mon., Wed., at 8.* Laboratory, *Mon., Tu., 2.20 to 4.20.*

3, 4. *Physiological Anatomy*

Intended for students who are planning to study medicine, agriculture, forestry, or plant pathology, as well as for those who expect to teach or pursue further work in botany. The origin, minute structure, and physiological function of plant tissues; reproduction, cytology, methods in micro-technic. The biological purpose of this course is to help the student to understand how plants, by the differentiation of cells and their association into tissues adapted to perform different kinds of work, are able to meet the conditions of their environment.

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2, or its equivalent.

5, 6. *Comparative Morphology and Phylogeny*

Designed not only for the general student, but for those who expect to teach, and for those who are particularly interested in botany. Methods in micro-technic. Intended to acquaint the student with a wider range of scientific methods in plant biology through a more comprehensive knowledge of plant forms and the more fundamental

conclusions of morphology and phylogeny. Special emphasis will be placed upon the evolution, morphology, and classification of plants. Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2, or its equivalent.

7, 8. *Special Course*

Special work on various phases of botany arranged to meet the requirements of individual students. May be taken in successive years. Students electing this course must plan it definitely, in consultation with the instructor, before June 1 of the preceding academic year.

Three hours. Through the year. Either semester may be elected independently. Elective for Graduates, and for approved Juniors and Seniors. By written consent of the department this course may be elected for six or nine hours.

9. *Diseases of Plants*

Designed to give the student a definite idea of one of the most fundamental relations of botany to the food supply of man, and to stimulate further inquiry into an inexhaustible field of science. An introduction to the nature, causes, and remedies of diseases of plants. Lectures and demonstrations.

One hour. Two hours of attendance. First semester. Elective for Undergraduates. Lectures, *Fri. at 8.*

10. *Trees*

Intended to familiarize the student with the common native and introduced trees of Rhode Island. Special attention will be given to their structure and economic value. Lectures and field work.

One hour. Two hours of attendance. Second semester. Elective for Undergraduates. Lectures, *Fri. at 8.*

[11, 12. *Physiology*]

Includes a study of imbibition, diffusion, osmosis, turgor, and the retention of bodily form; relation of soil and solutes to the plant; transpiration and exudation; movement of materials within the plant body; photosynthesis; respiration; growth and movement; reproduction and death.

Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for 1, 2, and 3, 4, or 5, 6, and for Graduates. Not offered in 1914-15.

13, 14. *Plant Pathology*

General course, including the identification of bacteria and fungi which cause diseases in our more common cultivated and native plants and native and introduced trees; their manner of infection and effects on their hosts, methods of prevention and control, and methods of culture and inoculation which are employed in the laboratory in the study of diseases of plants.

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2, and 3, 4, or 5, 6.

VI. CHEMISTRY

JOHN EMERY BUCHER, PH.D., *Newport-Rogers Professor of Chemistry*

HAROLD EUGENE BIGELOW, PH.D., *Assistant Professor of Chemistry*

NORMAN EDWARD HOLT, PH.D., *Instructor in Chemistry*

SAMUEL TOMLINSON ARNOLD, SC.M., *Instructor in Chemistry*

1, 2. *Descriptive Chemistry* ‡

Non-metals; metals, their metallurgy, compounds, and practical applications; theoretical chemistry. Lectures with experiments; written exercises; individual laboratory work. *Professor BIGELOW and Mr. ARNOLD.*

Three hours. Through the year. Elective for Undergraduates. *1st div., Mon., Th., at 10.20; 2d div., Tu., Fri., at 10.20.* Laboratory hours to be arranged with the instructor.

3, 4. *Qualitative and Quantitative Analysis*

Properties of the metallic elements; their separation from certain of their compounds. The principal non-metals and the acids formed by them; methods of separation and recognition of acids and acid radicals. Quantitative precipitations and separations of the most important elements and compounds; the principles upon which quantitative

‡ Credit for the entrance requirement in Chemistry admits only to 1, 2, which may be taken also without previous preparation. Students who wish to enter more advanced courses without taking 1, 2 must pass a special test at the time of the entrance examination in Chemistry. This test will cover the following topics: 1. All of the non-metals with their principal compounds and the processes of manufacture of the chief commercial products from non-metals. 2. About thirty important metals, their occurrence, preparation from the ore, the preparation and uses of their chief compounds. 3. The general principles of chemical action which depend upon physical laws. 4. Methods of making chemical computations of moderate difficulty. Preparation for this test may require the equivalent of six hours a week for one school year.

apparatus is constructed. Laboratory work; recitations in qualitative analysis and in chemical philosophy; exercises in stoichiometry. *Professor BIGELOW and Mr. ARNOLD.*

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2. *1st div., Fri. at 11.20; 2d div., Sat. at 10.20.* Laboratory hours to be arranged with the instructor.

5, 6. *Quantitative Analysis, Advanced Course*

Assaying of metallic ores; analysis of agricultural materials; testing of chemicals used in textile establishments, etc. *Professor BIGELOW.*

Six hours. Twelve hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 3, 4. Laboratory hours to be arranged with the instructor.

7, 8. *Organic Chemistry*

Preparation and analysis of representative organic compounds. Lectures, recitations, and laboratory work. *Professor BUCHER and Dr. HOLT.*

Six hours. Through the year. Elective for approved Juniors, Seniors, and Graduates who have credit for 3, 4. By written consent of the department 8 may be elected for three hours. *Mon., Th., Fri., at 9.20.*

10. *Assaying*

Professor BUCHER and Dr. HOLT.

Three hours. Six hours of attendance. Second semester. Elective for Seniors and Graduates who have credit for 1-6.

12. *Organic Dyes*

The chemistry and use of mordants, dyes, etc. *Dr. HOLT.*

Three hours. Six hours of attendance. Second semester. Elective for approved Seniors and Graduates.

[13, 14. *Industrial Chemistry*]

Lectures and laboratory work.

Three hours. Six hours of attendance. Through the year. Elective for approved Graduates. By written consent of the department this course may be elected for six or nine hours. Not offered in 1914-15.

[15, 16. *Physical Chemistry*]

Lectures and laboratory work.

Three hours. Through the year. Elective for approved Juniors, Seniors, and Graduates. Not offered in 1914-15.

17, 18. *Physical Chemistry, Advanced Course*

Lectures and laboratory work. *Professor BUCHER and Dr. HOLT.*

Three hours. Through the year. Elective for approved Graduates who have credit for Physics 1-4, and have credit for or are taking Mathematics 7, 8.

[19. *Organic Chemistry, Advanced Course*]

Three hours. First semester. Elective for approved Graduates. Not offered in 1914-15.

[20. *Inorganic Chemistry, Advanced Course*]

Three hours. Second semester. Elective for approved Juniors, Seniors, and Graduates. Not offered in 1914-15.

21, 22. *Organic Preparations, Advanced Course*

Professor BUCHER and Dr. HOLT.

Three hours. Through the year. Elective for approved Juniors, Seniors, and Graduates. By written consent of the department this course may be elected for six or nine hours.

23, 24. *Inorganic Preparations, Advanced Course*

Professor BUCHER and Dr. HOLT.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 7, 8. By written consent of the department this course may be elected for six or nine hours.

25, 26. *Research Work in Chemistry*

Professor BUCHER.

Three or more hours. Through the year. Elective for Graduates.

27, 28. *Conference on Special Topics in Chemistry*

Professor BUCHER.

One hour. Through the year. Elective for approved students.

29, 30. *Industrial Chemistry and Research*

Professor BUCHER.

Three or more hours. Through the year. Elective for approved Graduates.

VII. CIVIL ENGINEERING ‡

For Students who entered before 1914

JOHN EDWARD HILL, C.E.M., Sc.D., *Professor of Civil Engineering*

HARDY CROSS, Sc.B., C.E.M., *Assistant Professor of Civil Engineering*

LEIGHTON TEETERICK BOHL, Sc.B., *Instructor in Civil Engineering*

1 a, 1 b; 2 a, 2 b. *Surveying*

Theory and practice of plane surveying; use of tape, compass, level, and transit; adjustment of instruments; pen topography; contour drawing; conventional signs; plotting. *Professor HILL, Mr. BOHL, and Assistants.*

Three hours and two hours, and one hour and two hours. Through the year. Elective for students who have credit for Mathematics 17 and Mechanical Drawing 2. Parts a and b may not be elected separately. First semester, *Mon., Tu., Th., at 11.20; Mon., Th., 2 to 5.* Second semester, *Mon. at 11.20; Mon., Th., 2 to 5.*

4. *Surveying, Advanced Field Work*

Use of stadia, plane table, and barometer; precise base-line measurement with steel tape; triangulation; topography. *Professors HILL and CROSS, Mr. BOHL, and Assistants.*

One hour. Spring recess. Elective for students who have credit for 1 and are taking 2.

6, 7, 8, 9. *Railroad Engineering*

Theory, location, construction, and economics of railroad engineering. Lectures, recitations, field work, and drafting. Second semester, railroad curves and practical problems. First semester, actual location of a line about two miles long, map, and estimate of cost. Second semester, railroad track and track work; maintenance of way department; economics of location. First semester, earthwork and its cost; rock excavation; tunneling. *Professors HILL and CROSS, Mr. BOHL.*

Two, three (six hours of field work), two, and two hours. Second, first, second, and first semesters. Courses 6 and 7 are elective for students who have credit for 2. Courses 8 and 9 are elective for Juniors and Seniors. Second semester, *Tu., Th., at 11.20.* First semester, *Wed., 9.20 to 5.* Second semester, *Wed., Fri., at 11.20.* First semester, *Fri. at 9.20; Mon., 2.20 to 5.20.*

‡ All courses in this department are required for the degree of Bachelor of Science in Civil Engineering.

10. *Geodesy*

Problems in geodetic surveying, with sufficient theory for a proper understanding of the formulas used. Lectures, recitations, and computations. *Professor HILL and Mr. BOHL.*

Two hours. One hour of recitation and two hours of computations. Second semester. Elective for students who have credit for 4, and Astronomy 5. *Tu. at 9.20; 2.20 to 4.20.*

12. *Highway Engineering*

Economics and location of country roads; surveys, grades, drainage, and foundations; construction and maintenance; economics and design of pavements; dust prevention and preservation of macadam roads; use of bituminous materials in the construction and maintenance of roads; methods of testing road materials; roads and pavements in foreign countries; systems of administration and maintenance; highway laws. Lectures, recitations, inspection trips, and seminary work. *Mr. BOHL.*

Three hours. Second semester. Elective for Sophomores, Juniors, and Seniors. *Mon., Tu., Th., at 8.*

13. *Hydraulic Engineering* ‡

Consideration of water supply mainly from a sanitary standpoint. A general course designed to give the chemical and biological aspects of water supply without laboratory work. Lectures, recitations, and seminary work. *Professor HILL.*

Two hours. First semester. Elective for Juniors and Seniors. *Mon., Th., at 10.20.*

15. *Theory of Structures*

Theory of statically determinate structures, as illustrated by the plate girder and bridge and roof trusses. Assumptions necessary in the more common cases of statical indetermination. Elements of the elastic theory of structures and applications. Analytical and graphical methods. The object is to develop accuracy in the application of the principles of mechanics to the practical problems of structural design and to establish a correct idea of the interrelation of theoretical investigations and practical details. Lectures, recitations, computations. *Professor CROSS and Mr. BOHL.*

‡ Courses 13, 30, and 32 cover the general subject of sanitation.

Five hours. First semester. Elective for students who have credit for Mechanics 2. *Tu., Wed., Th., at 8; Tu., Wed., at 9.20.*

19. *Bridge Design*

Complete design and shop details of a through plate girder railway bridge or similar structure, accompanied by lectures and discussions. Individual data are given, business-like methods are required, and a practical attitude towards the work is encouraged. Lectures, computations, drafting. *Professor Cross and Mr. BOHL.*

Three hours. One hour of recitation and four hours of drafting, or six hours of drafting. First semester. Elective for students who have credit for Mechanical Drawing 4, and have credit for or are taking 15. *Tu., 11.20 to 1.20; 2.20 to 6.20.*

20. *Bridge Design*

Theory and practice of truss detailing. General and working drawings are prepared for a pin or riveted truss bridge for highway or railway traffic and for a timber or steel roof truss, the work being adapted to the needs of the class. Erection, shop practice, specifications, and other points not covered in 15 are discussed. Lectures, computations, drafting. *Professor Cross and Mr. BOHL.*

Three hours. One hour of recitation and four hours of drafting, or six hours of drafting. Second semester. Elective for students who have credit for 15 and 19. *Tu., 11.20 to 1.20; 2.20 to 6.20.*

22. *Masonry Design*

Theory of dams, arches, retaining walls, and similar structures. Special attention given to the theory of reinforced concrete. Properties of concrete. Design of a dam, an arch, and of several reinforced concrete structures. Lectures, recitations, computations, drafting. *Professor Cross and Mr. BOHL.*

Five hours. Two hours of recitation and six hours of drafting. Second semester. Elective for students who have credit for 15, and Mechanical Drawing 4. *Mon. at 10.20; Th., 10.20 to 1.20; 2.20 to 6.20.*

24. *Foundations*

Methods employed and results to be expected in foundation work. Special attention given to the more common cases. Lectures and recitations. *Professor Cross.*

One hour. Second semester. Elective for students who have credit for Mechanics 2. *Tu. at 10.20.*

26. *Contracts and Specifications*

Law of contracts. Practical considerations in contracting. Preparation of specifications. Interpretation of contracts. Lectures and recitations. *Professor CROSS.*

One hour. Second semester. Required of all candidates for the degree of Bachelor of Science. *Th. at 9.20.*

28. *Engineering Jurisprudence*

The legal and some of the economic problems involved in engineering work. The object is to emphasize the importance of these considerations in the solution of technical problems and to interest the student in further investigation. Lectures and recitations. *Professor CROSS.*

One hour. Second semester. Elective for Juniors and Seniors. *Wed. at 9.20.*

30. *Hydraulic Engineering* †

Consideration of water supply mainly from an engineering standpoint. Irrigation, pumps and pumping machinery; construction of dams and reservoirs. Lectures, recitations, and seminary work. Supplements Mechanics 3, which gives the theoretical treatment of the subject. *Professor HILL.*

Two hours. Second semester. Elective for students who have credit for Mechanics 3. *Mon., Wed., at 10.20.*

32. *Sanitary Engineering* †

Theory of sewerage, treatment and disposal of sewage; stream pollution; house drainage and its appliances; garbage collection and disposal; design of sanitary works. Lectures, recitations, drafting, and seminary work. *Professor HILL.*

Three hours. Second semester. Elective for students who have credit for Mechanics 3. *Wed., Fri., at 9.20; Mon., 3.20 to 6.00.*

34. *Hydraulic Surveying (Applied Hydraulics)*

Methods of surveying applicable to river and harbor work. Methods of measuring and rating the flow of streams. Actual measurement of the discharge of a stream by means of the current meter, weir, and floats. Recitations and field work. *Mr. BOHL.*

One hour. Three hours of recitation or eight hours of field work last third of second semester. Elective for students who have credit for 2 and Mechanics 3. *Mon., Wed., Fri., at 11.20; or Tu., 9.20 to 5.20.*

† Courses 13, 30, and 32 cover the general subject of sanitation.

35, 36. *Thesis*

A thesis is required of all candidates for the degree of Bachelor of Science in Civil Engineering. The thesis must embody either a design or a review of an engineering plant, appliance, process, or structure, or the results of an experimental investigation.

For Students entering in 1914 or after

2, 1,[†] 3, 5. *Surveying*

Theory and practice of plane surveying; use of tape, compass, level, and transit; adjustment of instruments; pen topography; contour drawing; conventional signs; plotting. *Professor HILL, Mr. BOHL, and Assistants.*

Three, two (two weeks of field work), two, and three hours. Second semester, summer vacation, first, and first semesters. Elective for students who have credit for Mathematics 17 and Mechanical Drawing 1. 2 and 1 may not be elected separately. Second semester, *Tu., Th., Fri., at 2.20.*

4. *Surveying, Advanced Field Work*

Use of stadia, plane table, and barometer; precise base-line measurement with steel tape; triangulation; topography. *Professors HILL and CROSS, Mr. BOHL, and Assistants.*

One hour. Spring recess. Elective for students who have credit for 1, 2, 3, and 5.

6, 7, 16. *Railroad Engineering*

Theory, location, construction, and economics of railroad engineering. Lectures, recitations, field work, and drafting. Second semester, railroad curves and practical problems. First semester, actual location of a line about two miles long, map, and estimate of cost. Second semester, railroad track and track work; maintenance of way department; economics of location; earthwork and its cost; rock excavation; tunneling. *Professors HILL and CROSS, Mr. BOHL.*

Three, three (six hours of field work), and three hours. Second, first, and second semester. Courses 6 and 7 are elective for students who have credit for 5. Course 16 is elective for Juniors and Seniors.

10. *Geodesy.*

Problems in geodetic surveying, with sufficient theory for a proper

[†] Civil Engineering 1 is taken in September during the two weeks preceding the opening of college.

understanding of the formulas used. Lectures, recitations, and computations. *Professor HILL.*

Two hours. One hour of recitation and two hours of computations. Second semester. Elective for students who have credit for 4, and Astronomy 5.

12. *Highway Engineering*

Economics and location of country roads; surveys, grades, drainage, and foundations; construction and maintenance; economics and design of pavements; dust prevention and preservation of macadam roads; use of bituminous materials in the construction and maintenance of roads; methods of testing road materials; roads and pavements in foreign countries; systems of administration and maintenance; highway laws. Lectures, recitations, inspection trips, and seminary work. *Mr. BOHL.*

Three hours. Second semester. Elective for Sophomores, Juniors, and Seniors.

14. *Elements of Structures*

Reactions, shears, moments, stresses in beams, simple trusses, and girders. The course aims to cover thoroughly the fundamental principles of simple structural design, and the essentials of routine structural work. Practice in reading and preparing structural drawings. *Professor CROSS.*

Three hours. Second semester. Elective for students who have credit for Mechanics 1.

18. *Surveying*

A condensation of 2, 1, 3, 5 designed to give electrical and mechanical engineering students the fundamental principles in regard to the use of the tape, transit, and level. *Professor HILL, Mr. BOHL, and Assistants.*

One hour. Second semester. Not elective.

26. *Engineering Law and Practice*

Contracts and contracting, business law and relations in general, riparian law, patents, cost systems, organization and management, and kindred topics. The course aims to outline the broader professional activities of the engineer and to indicate his relations to the public and to other professional men. Some of the lectures are optional for certain classes of students, and opportunity is afforded for specialization. *Professors KENERSON, BROOKS, CROSS, and special lecturers.*

One hour. Two hours of attendance. Second semester. Elective for Juniors and Seniors.

34. *Hydraulic Surveying (Applied Hydraulics)*

Methods of surveying applicable to river and harbor work. Methods of measuring and rating the flow of streams. Actual measurement of the discharge of a stream by means of the current meter, weir, and floats. Recitations and field work. *Mr. BOHL.*

One hour. Three hours of recitation or eight hours of field work last third of second semester. Elective for students who have credit for 5, and Mechanics 3.

36. *Thesis*

A thesis is required of all candidates for the degree of Bachelor of Science in Civil Engineering unless a substitute is allowed by the head of the department. The thesis must embody either a design or a review of an engineering plant, appliance, process, or structure, or the results of an experimental investigation.

37, 38. *Theory of Structures*

Extends the work of 14; the essentials of design in steel, masonry, and timber; both substructure and superstructure are included. While the work is primarily theoretical, practice and its relations to theory are emphasized. In the second semester special attention is given to reinforced concrete. *Professor CROSS.*

Three hours. Through the year. Elective for students who have credit for 14.

40. *Structural Design*

Design of foundations, buildings, bridges, dams, arches, retaining walls, and similar structures. Preparation and study of strain sheets and working drawings. Individual problems are given and results are from time to time discussed by the class. *Professor CROSS and Mr. BOHL.*

Three hours. Six hours of drafting. Second semester. Elective for students who have credit for or are taking 38.

42. *Advanced Structural Design*

Supplements courses listed above by giving the student a knowledge of important literature, and of principles and methods not readily acquired in practice. Discussion of special problems in advanced branches of the science. *Professor CROSS.*

Three hours. Six hours of attendance. Second semester. Elective for students who have credit for or are taking 38 and 40.

43, 44. *Construction in Steel and Concrete*

Primarily for those who will become purchasers rather than designers of engineering structures. Principles and methods of design are explained and the whole process of construction outlined from foundation to completed structure, the functions of each worker from laborer to purchaser being indicated. Practice in reading and preparing structural drawings. *Professor CROSS.*

Three hours. Through the year. Elective for those who have credit for Mechanics 1.

45, 46. *Water Supply and Sewerage*

Water supply and sewerage from a sanitary and an engineering standpoint. The first semester is devoted mainly to the chemical, biological, and descriptive aspects of the subjects, and the second semester to engineering construction and design. *Professor HILL.*

Four hours and three hours. Through the year. 45 is elective for seniors. 46 is elective for students who have credit for Mechanics 3, and Civil Engineering 14.

VIII. ECONOMICS†

HENRY BRAYTON GARDNER, PH.D., *Professor of Economics*

JAMES MARVIN MOTLEY, PH.D., *Associate Professor of Economics*

HENRY REED BOWSER, M.B.A., *Instructor in Economics*

1. *Elementary Economics*

An outline and discussion of the fundamental principles of the subject. *Professors GARDNER and MOTLEY.*

Three hours. In connection with Social Science 1, or Political Science 1, constitutes a year course required in Sophomore, Junior, or Senior year of candidates for the degree of Bachelor of Arts or Bachelor of Philosophy, and in Sophomore year of candidates for the degree of Bachelor of Science. The combined courses will be given in two sections. For the first section Economics will be given in the first semester and Political Science in the second semester. *Tu., Fri., Sat., at 10.20.* For the second section Social Science will be given in the first semester and Economics in the second semester. *Mon., Wed., Fri., at 12.20.* Students must indicate their choice of section on the registration card.

† The courses in this department other than 1 are open only to students who have credit for Economics 1, and Social Science 1, or Political Science 1.

5, 6. *Money and Banking*

Principles of money; recent monetary history, particularly of the United States; systems of the leading industrial nations; present problems. Principles of banking; recent banking history, particularly of the United States; systems of the leading industrial nations; present problems, with special reference to the problem of the reform of the banking system in the United States. *Professor GARDNER.*

Three hours. Through the year. *Wed., Fri., Sat., at 11.20.*

7. *Problems of Labor and Industry*

An analysis of the economic and social effects of modern methods of production; the rise of the trade union and the influence of collective bargaining; the organization of industry; scientific management, profit sharing, legal minimum wage, social insurance, and other modern movements to secure industrial efficiency and a more equitable distribution of wealth. *Professor MOTLEY.*

Three hours. First semester. *Mon., Tu., Th., at 11.20.*

8. *Socialism and Allied Movements*

Criticism of the present industrial order; brief review of the historically important socialistic schemes; an analysis and criticism of the leading socialistic theories with special reference to present-day proposals; communism, syndicalism, and land nationalization as agencies for economic reform. *Professor MOTLEY.*

Three hours. Second semester. *Mon., Tu., Th., at 11.20.*

[10. *Tariff, Reciprocity, and Shipping Subsidies*]

The development of the American system of protection and its effect upon domestic industry and international commerce; an analysis and criticism of arguments for protective tariff and for free trade; reciprocity agreements; policies of leading nations with regard to state aid to shipping.

Three hours. Second semester. Not offered in 1914-15.

11, 12. *Public Finance and Financial History*

General principles of public finance; revenues and expenditures of leading industrial nations; public enterprises in their financial aspects; principal forms of taxation and their effects; public debts. Special attention will be given to the financial history of the United

States from the adoption of the Constitution to the present day. *Professor GARDNER.*

Three hours. Through the year. *Tu., Th., Sat., at 12.20.*

13. *Statistics*

The principles of statistics as a method of recording and presenting social and economic facts; the possibilities and limitations of the statistical method; the interpretation of statistics; some of the important results of statistical investigation. *Mr. BOWSER.*

Three hours. First semester. *Tu., Th., Fri., 5 to 6.*

14. *Accounting*

The importance of accounting in economic life and the principles which underlie it; the accounting systems of public bodies and quasi-public corporations; the interpretation of financial statements. *Mr. BOWSER.*

Three hours. Second semester. *Tu., Th., Fri., 5 to 6.*

15. *Trade and Transportation*

The organization of international trade and the place of the United States in the commerce of the world; a description of the existing trade relations of the United States, of the conditions which control them, and the probable lines of their development, the organization and development of the internal trade of the United States with special reference to railway transportation and the problems to which it has given rise. *Professor MOTLEY.*

Three hours. First semester. *Mon., Wed., Th., at 10.20.*

16. *Corporations and Corporation Finance*

The corporation as a form of business organization; its formation and promotion; capitalization; forms of securities; the stock market; state and federal control and similar topics. *Professor MOTLEY.*

Three hours. Second semester. *Mon., Wed., Th., at 10.20.*

21, 22. *Investigation of Special Topics*

Intended to afford a training in methods of gathering, handling, and presenting data in the study of economic life and problems. Each student is assigned a separate topic. *Professors GARDNER and MOTLEY.*

Three hours. Six hours of attendance. Through the year. Either semester may be elected independently. Students intending to take either of these courses

must secure the permission of the head of the department not later than December 1 or June 1 in the semester preceding that in which they desire to take the course. It is expected that as a rule these courses will be taken in connection with lecture courses. Hours to be arranged with the instructor.

23, 24. *Economic Seminary*

Study of important aspects of economic theory, history, and current problems of economic life. *Professors GARDNER and MOTLEY.*

Three hours. Two hours of attendance. Through the year. Elective for Seniors and Graduates who have taken advanced work in Economics. Hours to be arranged with the instructor.

IX. EDUCATION†

WALTER BALLOU JACOBS, A.M., *Professor of Education*

STEPHEN SHELDON COLVIN, PH.D., *Professor of Educational Psychology*

2. *Principles of Education*

The meaning and scope of education; its function as a social institution; physical education—heredity and instinct, growth and development, adolescence, the function of play and athletics, fatigue; intellectual education—its aim, the origin and growth of mental activities, the acquisition, reproduction, elaboration of knowledge, the truth and fallacy of mental discipline, the choice of studies and their organization, the principles of method; education and behavior—habit formation, the development of character. The course is an introduction to the study of education. At the same time it will be of service to those who desire a brief survey of the principles and problems of education. *Professor JACOBS.*

Three hours. First semester. Elective for Juniors, Seniors, and Graduates, and by permission. *Mon., Wed., Fri., at 12.20.*

† Courses 1 and 2 are general and cultural in character; interest in them is therefore not limited to those who intend to teach. At the same time they form an introduction to the more advanced courses in Education. Those who intend to teach are advised to elect these courses during the Junior year.

Courses 1-4 cover the usual requirements for certificates of the First Grade except where practice teaching or experience is demanded. In Rhode Island a certificate is required of all teachers in schools supported in whole or in part by public money. Certificates of the First Grade are granted without examination to those who have completed courses 1-4 and hold a college degree. Due credit is also given for separate courses.

Certificates, authorizing the holders to teach in the evening schools of the state, are issued without examination to students who have completed three years of regular work, including Education 1, 2.

For further explanation of the work of this department, see page 169.

1. *History of Education*

Education among the early culture peoples; development of education in Greece and Rome; early Christian education; the Renaissance and humanism; the beginnings of modern education; the naturalistic movement, Rousseau; the psychological movement, Pestalozzi, Froebel, Herbart; the scientific movement, Spencer and Huxley; education in the United States; recent sociological tendencies; the movement for industrial education. The emphasis will be on the modern period. *Professor JACOBS.*

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates, and by permission. *Mon., Wed., Fri., at 12.20.*

3. *Psychology of Education*

A study of the general principles of learning and a discussion of habit formation, and of the various activities of mind involved in the process of education,—sensation and perception, imagination, association and memory, attention and interest, the higher mental processes. The course also discusses the problem of transfer in training; work and play; fatigue; economical methods of learning; tests of mental capabilities. *Professor COLVIN.*

Three hours. First semester. Elective for students who have credit for 2 and 1, or are taking 2, and for Graduates. *Mon., Tu., Th., at 11.20.*

4. *Practical Introduction to Teaching*

The elements of method and their application in practice teaching; observation of good teaching; management and discipline of classes; school law. *Professor COLVIN.*

Three hours. Second semester. Elective for students who have credit for 1, 2, and 3, or for 2 and 3, and are taking 1. *Mon., Tu., Th., at 11.20.*

5. *Secondary Education; ‡ Organization and Function*

The place of the high school and academy in the American system of education; comparison with secondary schools in Germany, France, and England; the administration of secondary education; its relation to the colleges and universities; meaning and value of the various secondary school studies, and their organization into a curriculum; high

‡ In the courses in Secondary Education, Professor Jacobs will be assisted by the following Lecturers on Method:

CHARLES EDWARD DENNIS, PH.D., *Latin.*
JESSE MADISON GATHANY, A.M., *History.*

ERNEST COBB, PH.B., *English.*
RICHARD OWEN DUMMER, A.M., *Physics and Chemistry.*

schools; the social life of the high school and academy; high school extension. *Professor JACOBS.*

Three hours. Two hours of attendance. First semester. Elective for Graduates and experienced teachers, and for approved Seniors. *Wed., 3.20 to 5.20.*

6. *Secondary Education; ‡ Methods and Processes*

The principles of method as applied to teaching in secondary schools; the resources at the command of the teacher; the preparation of teachers. The following will receive special attention as typical secondary school studies: English, Modern Languages, and Latin; History, Science, and Mathematics; the Manual Arts. *Professor JACOBS.*

Three hours. Two hours of attendance. Second semester. Elective for Graduates and experienced teachers, and for approved Seniors. *Wed., 3.20 to 5.20.*

7, 8. *Problems in Practical Teaching; Secondary Schools*

Practice teaching in the high schools of Providence and of neighboring cities and towns. Observation, reports, and conferences. Designed for those who wish to become instructors in colleges, teachers or principals in secondary schools, or superintendents of schools. *Professor COLVIN, assisted by the Supervising Teachers.*

Three hours. Through the year. Elective for Graduates who have credit for elementary courses in Education and are taking 5, 6 and 15, 16, and for approved Seniors. *Sat. at 9.05, and at other hours to be arranged.*

9, 10. *Problems in Practical Teaching; Grammar Grades*

Practice teaching in the Providence Grammar Schools. Observation, reports, and conferences. Designed especially for those who wish to become grade teachers, principals of grammar schools, or superintendents of schools, but also for those who wish to teach in secondary schools. The following studies receive special attention: Arithmetic, Language, History, and Geography. *Professor COLVIN, assisted by the Supervising Teachers.*

Three hours. Through the year. Elective for Graduates who have credit for elementary courses in Education and are taking 15, 16, and for approved Seniors. *Mon. at 3.20, and at other hours to be arranged.*

‡ In the courses in Secondary Education, Professor Jacobs will be assisted by the following Lecturers on Method:

CHARLES EDWARD DENNIS, PH.D., *Latin.*
JESSE MADISON GATHANY, A.M., *History.*

ERNEST COBB, PH.B., *English.*
RICHARD OWEN DUMMER, A.M., *Physics and Chemistry.*

11, 12. *Experimental Education*

A laboratory course in educational psychology. The principal methods which have been used in measuring mental and physical capabilities will be reviewed and discussed. Under guidance the student will work through a number of the most important of these methods in the laboratory. He will also conduct a specific experiment in some phase of experimental education, report on his results from time to time, and finally set these forth in the form of a thesis. *Professor COLVIN*. Three hours. Through the year. Elective for Graduates and experienced teachers.

13, 14. *Educational Administration*

Problems of educational administration in the State of Rhode Island and in the cities and towns of the state. In the study of these problems the varied experiences and experiments of other states and of European countries will be considered. Out of this study will be developed the principles underlying national and municipal administration of education. *Professor JACOBS*.

Three hours. Through the year. Two hours of attendance. Elective for Graduates, experienced teachers, principals, and superintendents, and for approved Seniors. *Th., 4 to 6*.

15, 16. *Seminary in Education*

Studies in current educational problems. The seminary will be conducted in two parts in successive hours. *Part A*. Reviews of the latest books upon education and related subjects, and studies of special problems assigned to individual students for investigation and experiment. *Part B*. A more intensive study of certain problems of current interest. For 1914-15 the subjects will be: First semester, Sociological Phases of Education. Second semester, Recent Educational Theory. As subjects are not repeated, the course may be elected for successive years. *Professor JACOBS*.

Three hours. Through the year. Two hours of attendance. Required of student-teachers. Elective for Graduates and experienced teachers, and for approved Seniors. A or B may be elected independently as a one-hour course. *Sat., 10.20 to 12.20*.

X. ENGLISH†

WALTER COCHRANE BRONSON, A.M., LITT.D., *Professor of English Literature*

LINDSAY TODD DAMON,† A.B., *Professor of English Literature and Rhetoric*

ALBERT KNIGHT POTTER, A.M., *Associate Professor of the English Language*

GEORGE WYLLYS BENEDICT, PH.D., *Associate Professor of English*

THOMAS CROSBY, A.M., *Associate Professor of English and Public Speaking*

HENRY BARRETT HUNTINGTON, A.B., *Associate Professor of English*

WILLIAM THOMSON HASTINGS, A.M., *Assistant Professor of English*

WALTER CLARKE PHILLIPS, A.M., *Instructor in English*

JOHN HENRY WILLIAMS, A.B., *Instructor in English*

ROY FOLLETT, A.B., *Instructor in English*

BENJAMIN CROCKER CLOUGH, A.B., *Assistant in English*

MARION KENNETH FORWARD, PH.B., *Assistant in English*

ARTHUR ERNEST ALLEN, *Assistant in English*

1. *Rhetoric and Composition*

Designed primarily to teach clear and correct expression. Training in the fundamentals of prose composition. Lectures, recitations, and themes. *Professors* BENEDICT and HASTINGS, *Messrs.* PHILLIPS, WILLIAMS, FOLLETT, CLOUGH, FORWARD, and ALLEN.

Three hours. First semester. Required of all Freshmen. *1st, 2d, and 3d div., Mon., Tu., Th., at 11.20; 4th, 5th, and 6th div., Mon., Wed., Fri., at 12.20; 7th div., Wed., Fri., Sat., at 11.20; 8th div., Mon., Tu., Th., at 3.20.* Candidates for the degree of Bachelor of Science will register in divisions 4 and 5. Students who fail in 1 will be required to repeat the course in the second semester, reciting *Mon., Wed., Fri., at 12.20.*

2. *Rhetoric and Composition*

A continuation of 1. Designed primarily to give training in the method, structure, and style of the chief forms of prose composition. Lectures, recitations, and themes. *Professors* BENEDICT and

† Credit for English 1 or 2 is a prerequisite for admission to all other courses in the department except 48.

Courses 1-16 may not be counted in fulfilment of the requirement of a year in English Literature.

† On leave of absence during the academic year 1914-15.

HASTINGS, Messrs. PHILLIPS, WILLIAMS, FOLLETT, CLOUGH, FORWARD, and ALLEN.

Three hours. Second semester. Required in the Freshman year of all candidates for the degree of Bachelor of Science, and in the Sophomore year of all candidates for the degree of Bachelor of Arts or Bachelor of Philosophy. Students electing 3, 4 may substitute 3 for 2. Students taking 7, 8 instead of Freshman mathematics may omit 2 in their Sophomore year and take 3 in their Junior year, if they obtained at least the grade of C in 1. *1st and 2d div., Mon., Tu., Th., at 11.20; 3d and 4th div., Mon., Wed., Fri., at 12.20; 5th div., Wed., Fri., Sat., at 11.20; 6th div., Mon., Tu., Th., at 3.20.* Freshman candidates for the degree of Bachelor of Science will register in sections 3 and 4.

48. *English Literature from the Beginning to 1700*

An outline course in the history of English literature to the end of the seventeenth century, with reading and study of the greater writers. Professors BRONSON and HASTINGS.

Three hours. Second semester. Required in the Freshman year of all candidates for the degree of Bachelor of Arts or Bachelor of Philosophy. *1st div., Wed., Fri., Sat., at 11.20; 2d div., Mon., Tu., Th., at 11.20; 3d and 4th div., Mon., Wed., Fri., at 12.20.*

49. *English Literature from 1700 to 1900*

An outline course in the history of English literature of the eighteenth and nineteenth centuries, with reading and study of the greater writers. Professors BRONSON and HASTINGS.

Three hours. First semester. Required in the Sophomore year of all candidates for the degree of Bachelor of Arts or Bachelor of Philosophy. *1st div., Wed., Fri., Sat., at 11.20; 2d div., Mon., Wed., Fri., at 12.20; 3d div., Mon., Wed., Th., at 10.20.*

3, 4. *English Composition, Second Course*

Intended to supplement the training given in 1, 2, and to develop further the power of exact and lucid statement. Lectures, recitations, and prescribed reading; weekly themes and other written exercises involving a variety of specific tasks such as abstracts, reports, scientific, technical, and historical papers, criticisms, stories, personal essays, etc. Mr. FOLLETT.

Three hours. Through the year. Elective for Sophomores and Juniors. Students electing 3, 4 may substitute 3 for 2. *Mon., Wed., Th., at 10.20.*

[5, 6. *English Composition, Advanced Course*]

Intended to develop ease of style and clarity and vigor of thought. Frequent practice in composition and criticism.

Three hours. Through the year. Elective for Juniors and Seniors. With the consent of the instructor the course may be repeated. Not offered in 1914-15.

7, 8. *Argumentative Composition*

Intended to develop the power of handling argumentative topics cogently and persuasively. Lectures on the principles and forms of argumentative composition; frequent practice in brief-drawing and the writing of forensics and less formal arguments. *Professor HUNTINGTON.*

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors; required in the Sophomore year of candidates for the degree of Bachelor of Philosophy who did not elect to take mathematics in their Freshman year. *Tu., Fri., Sat., at 10.20.*

9. *Debate*

Intended to train students in correct and vigorous oral presentation of ideas. *Professor HUNTINGTON, with the coöperation of the Professors of Economics, Social and Political Science, History, and Public Speaking.*

Three hours. First semester. Elective for a limited number of Juniors and Seniors who have credit for 7. With the consent of the instructor the course may be repeated. *Mon., 3.20 to 5.20; Fri., 2.20 to 4.20.*

11, 12. *Public Speaking*

Principles of voice culture; vocal interpretation of literature; extempore speaking. *Professor CROSBY.*

Three hours. Through the year. Elective for Sophomores and Juniors. *Mon., Tu., Th., at 11.20.*

13, 14. *Public Speaking, Advanced Course*

Practice in reading lyric, narrative, and dramatic literature, in extempore speaking, and in the composition and delivery of the common forms of the occasional address. Special attention to securing right tone-production and to improvement in speech. *Professor CROSBY.*

Three hours. Through the year. Elective for students who have attained at least the grade of B in 11, 12. *Tu., Th., Sat., at 12.20.* Not to be offered in 1915-16.

15, 16. *Old English*

Essentials of Anglo-Saxon grammar; prose selections; Beowulf. *Professor* POTTER.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. *Tu., Th., Fri., at 4.20.*

17, 18. *Chaucer*

A study of the poems as literature, with sufficient attention to Middle English grammar to enable the student to read intelligently. Selections from Langland and Gower. *Professor* BENEDICT.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. *Tu., Th., Fri., at 3.20.*

21, 22. *The Drama in England to 1642*

The drama as a literary type and its history in England to the closing of the theatres. *Professor* POTTER.

Three hours. Two hours of attendance. Through the year. Elective for students who have credit for a year's work in English Literature. *Wed., Fri., Sat., at 11.20.* Not to be offered in 1915-16.

[23, 24. *The Modern English Drama*]

The history of the English drama from 1660 to the present time. Reading and discussion of the work of the chief playwrights from Wycherley and Congreve to Jones, Pinero, and Shaw.

Three hours. Through the year. Elective for students who have credit for a year's work in English Literature. Not offered in 1914-15.

[25, 26. *Shakspeare*]

Careful study of a few plays with special attention to exact interpretation.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Not offered in 1914-15.

27, 28. *Shakspeare*

A brief survey of the drama before Shakspeare. Shakspeare as playwright and poet. Reading of all the plays; careful study of the great tragedies. Lectures, discussions, and reports on assigned topics. *Professor* POTTER.

Three hours. Through the year. Elective for students who have credit for a year's work in English Literature. *Tu., Th., Sat., at 12.20.*

29. *English Literature, exclusive of the Drama, from 1558 to 1603*
Elizabethan verse and prose in their relation to the great movements of the age, with special attention to Spenser and Bacon. *Professor BRONSON.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. First semester. Elective for students who have credit for a year's work in English Literature. *Mon., Tu., Th., at 11.20.* Not to be offered in 1915-16.

30. *English Literature, exclusive of the Drama, from 1603 to 1660*
Puritanism in literature; the Cavalier lyrists; the great prose writers; all the English poems and the more important prose works of Milton. *Professor BRONSON.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Second semester. Elective for students who have credit for a year's work in English Literature. *Mon., Tu., Th., at 11.20.* Not to be offered in 1915-16.

[31, 32. *English Literature from 1660 to 1798*]

The Restoration drama; the classical school; development of the essay and the novel; the beginnings of romanticism. Dryden, Wycherley, Congreve, Addison, Swift, Defoe, Richardson, Fielding, Pope, Gray, Collins, Smollett, Sterne, Johnson, Goldsmith, Burke, Burns.

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Through the year. Elective for students who have credit for a year's work in English Literature. Not offered in 1914-15.

33, 34. *The English Novel*

The history of the English novel from 1700 to 1900; reading and discussion of the greater English novelists, including Defoe, Richardson, Fielding, and Smollett in the eighteenth century, and Scott, Jane Austen, Dickens, Thackeray, Charlotte Brontë, George Eliot, Meredith, Hardy, and Stevenson in the nineteenth century. *Mr. FOLLETT.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Through the year. Elective for students who have credit for a year's work in English Literature. *Tu., Fri., Sat., at 10.20.* Not to be offered in 1915-16.

35. *English Literature from 1798 to 1832, Poetry*

The reaction from classicism; the influence of the French Revolu-

tion; liberalism and individualism in English poetry; contemporary criticism. Wordsworth, Coleridge, Southey, Scott, Byron, Shelley, Keats, Landor. *Professor HASTINGS.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. First semester. Elective for students who have credit for a year's work in English Literature. *Mon., Th., Fri., at 9.20.*

36. *English Literature from 1798 to 1832, Prose*

The development of the romantic novel; the rise of the reviews and quarterlies; essays and miscellaneous prose. Scott, Jane Austen, Coleridge, Jeffrey, De Quincey, Lamb, Hazlitt. *Professor HUNTINGTON.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Second semester. Elective for students who have credit for a year's work in English Literature. *Mon., Th., Fri., at 9.20.*

[37. *English Literature from 1832 to 1892, Prose*]

Modifications of romanticism; realism; the influence of science and democracy; tendencies at the end of the century. Essays, history, miscellaneous prose, the novel. Macaulay, Carlyle, Ruskin, Arnold, Pater, Huxley, Dickens, Thackeray, Charlotte Brontë, George Eliot, Hardy.

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. First semester. Elective for students who have credit for a year's work in English Literature. Not offered in 1914-15.

38. *English Literature from 1832 to 1892, Poetry*

Modifications of romanticism; Pre-Raphaelitism; the influence of science and democracy; tendencies at the end of the century. Tennyson, Browning, Arnold, Clough, Rossetti, Morris, Swinburne. *Professor HASTINGS.*

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Second semester. Elective for students who have credit for a year's work in English Literature. *Mon., Wed., Th., at 10.20.*

[39, 40. *American Literature*]

American literature from the beginning to 1900, in its relation to American life and to English literature. A rapid survey of the literature of the seventeenth and eighteenth centuries; reading and study of the writers of the nineteenth century, with special attention to Irving, Cooper, Bryant, Poe, Longfellow, Emerson, Hawthorne, Whittier, Holmes, Lowell, and Whitman.

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Through the year. Elective for students who have credit for a year's work in English Literature. Not offered in 1914-15.

[42. *Contemporary English and American Literature*]

A study of the tendencies of modern thought through the literature that reflects it. Reading and discussion of contemporary poets, novelists, and essayists.

Three hours. Second semester. Elective for students who have credit for a year's work in English Literature. Not offered in 1914-15.

43, 44. *Seminary in English Literature*

Studies in medieval story. Reading of a number of metrical romances and ballads; consideration of their sources in myth, legend, folk-tale, and history, and of the relation of the English romances and ballads to those in other languages; comparison with later fiction as regards substance and method. *Professor* BENEDICT.

Three hours. Two hours of attendance. Through the year. Elective for Graduates, and for a limited number of Seniors who have attained at least the grade of C in two years' work in English Literature.

XI. GEOLOGY

CHARLES WILSON BROWN, A.M., *Associate Professor of Geology*

ALFRED CARY HAWKINS, A.M., *Instructor in Geology*

1, 2. *Introductory Geology*

A study of the development of the earth, with special reference to the North American Continent, including a discussion of earth origin, of the work of surface and interior agencies in the production of various topographic forms, rock types and their changes, crustal deformation and continent making, together with a survey of ancient life types and the principles of organic evolution they illustrate. First semester, physiographic and dynamic geology. Second semester, stratigraphy and paleontology.

Three hours. Through the year. Elective for Undergraduates. *Mon., Wed., Th., at 10.20.*

3, 4. *Introductory Geology*

Similar to 1, 2, but with emphasis upon the discussion of geologic problems that may arise in engineering work. Special attention in

map and field study to topographic features resulting from the various geologic agencies, and to the study of hand specimens of minerals, ores, and rock types and their uses. May be continued in 7, 14, and 8.

Two hours. Four hours of attendance. Through the year. Required in the Junior year of candidates for the degree of Bachelor of Science in Civil Engineering. Not elective. First semester, *Mon.* at 10.20; *Fri.* at 9.20. Second semester, *Mon.*, *Wed.*, at 10.20.

5, 6. *The General Geography of North and South America*

A discussion of the physiographic controls that influence the development of transportation and commerce; agriculture, forests, water power, and water supply, such as valleys and rivers, mountains, plains, and other large land features. A study of the laws of meteorology, and the relation of climate to soil products and to man and his development; the location and proper development of cities; and the geographic distribution of ore deposits and other natural resources and their conservation. May be continued in 11, 12.

Three hours. Through the year. Elective for Undergraduates who have credit for 1 or 3, or who presented Physiography for admission, except Freshmen and Sophomores who are taking another course in the department. *Tu.*, *Wed.*, *Sat.*, at 9.20.

7, 14. *Economic Geology*

A discussion of the origin, occurrence, distribution, and production of building and structural materials; of the non-metalliferous and metalliferous ore deposits.

Three hours. Through the year. 7 is elective for Undergraduates who have credit for 1 or 3; 14 for those who have credit for 1 or 3, and 9. Hours to be arranged with the instructor.

[9, 10. *Mineralogy and Petrography*]

An introductory course in the macroscopic and microscopic study of minerals, ores, and rocks. First semester, discussion of crystal forms and the laws of crystallography, determination by physical properties and blow-pipe analysis of the more common minerals and ores. Second semester, study of the optical properties of the rock-forming minerals, rocks, and ores, under the polarizing microscope; determination of rock types; discussion of the fundamental principles of the origin and classification of rocks and ores.

Three hours. Six hours of attendance. Through the year. Elective for Sophomores, Juniors, and Seniors. *Tu., Th., at 11.20.* Not offered in 1914-15.

11, 12. *Research in Geology and Geography*

Advanced work in the library, laboratory, or field, in the various phases of geology or geography. The region in which the University is situated provides unusual opportunities in a small compass for the study of both simple and complex problems in field research in physiographic, metamorphic, petrographic, mineralogic, paleontologic, and stratigraphic geology. Arranged to meet the requirements of individual students.

One to six hours. Through the year. Elective for Graduates and approved Undergraduates. Either semester may be elected independently.

[13. *Dynamic and Stratigraphical Geology*]

Detailed study of the origin and development of North America and the recognition of the index fossils of the different systems, especially of the Narragansett Bay region.

Three hours. Two hours of attendance. First semester. Elective for Juniors, Seniors, and Graduates who have credit for Geology 1, 2, or their equivalents. Alternates with 7. Not offered in 1914-15.

[8. *Stratigraphy and Structural Geology*]

An introductory course in field geology. Study of areal and structural geology in igneous and sedimentary areas from geologic reports. Practice in the construction of geologic maps and work in the field areas.

Three hours. Second semester. One conference hour to be arranged, and five hours' work in the laboratory or field. Elective for Undergraduates who have credit for 1, 3. Not offered in 1914-15.

15. *Topographic Geology*

Includes the recognition and surveying of typical land features and the construction in the laboratory of a model of an assigned topographic form.

Three hours. Six hours of attendance. First semester.

XII. GERMANIC LANGUAGES AND LITERATURES†

CAMILLO VON KLENZE, PH.D., *Professor of the Germanic Languages and Literatures*

ASA CLINTON CROWELL, PH.D., *Associate Professor of the Germanic Languages and Literatures*

ROBERT MCBURNEY MITCHELL, PH.D., *Assistant Professor of the Germanic Languages and Literatures*

ALBERT EDWARD RAND, PH.D., *Instructor in German*

BERNARD KEENAN, A.M., *Instructor in German*

1, 2. *Elementary Course, First Year*

Reading, grammar, composition, conversation, dictation, sight reading. *Professor MITCHELL and Mr. KEENAN.*

Three hours. Through the year. Elective for students who did not present German for admission. *1st div., Tu., Wed., Sat., at 9.20; 2d div., Mon., Th., Fri., at 9.20.*

3, 4. *Elementary Course, Second Year*

Reading of fairly difficult modern German stories, lyrics (von Klenze or Hatfield), and two dramas illustrating respectively the classical and the modern period, for example, Schiller's *Maria Stuart* and Hebbel's *Agnes Bernauer*. Review of grammar; composition; conversation based upon the texts read. *Professor CROWELL.*

Three hours. Through the year. Elective for students who have credit for 1, 2, or who presented elementary German (1 year) for admission. *Tu., Wed., Sat., at 9.20.*

5, 6. *Intermediate Course*

Reading of fairly difficult modern German stories, lyrics (von Klenze or Hatfield), and one or two dramas of the classical period. Review of grammar; composition; conversation based upon the texts read. *Professor MITCHELL and Mr. RAND.*

Three hours. Through the year. Elective for students who have credit for 3, 4, or who presented elementary German (2 years) for admission. *1st div., Wed., Fri., Sat., at 11.20; 2d div., Tu., Fri., Sat., at 10.20; 3d div., Mon., Wed., Th., at 10.20; 4th div., Tu., Wed., Sat., at 9.20.*

†Students wishing recommendations from the department to teach German must pass a special examination designed to test their ability to write and to understand German, and, to some extent, to use the spoken language.

7, 8. *Advanced Course in Standard Authors, Classical and Modern*
One drama of Goethe or Schiller, one drama of Grillparzer, one drama of Hebbel, von Klenze's *Deutsche Gedichte*, a modern novel like Sudermann's *Frau Sorge*. Talks in German on the history of German literature; oral and written reports in German. *Messrs. RAND and KEENAN.*

Three hours. Through the year. Elective for students who have credit for 5, 6, or who have passed 3, 4, with grade B; or who presented intermediate German for admission. *1st div., Mon., Tu., Th., at 11.20; 2d div., Tu., Th., Sat., at 8.*

9, 10. *Modern Prose*

Aims to train the student in reading, speaking, writing, and understanding modern German. Reading of texts selected from history and science; for example, Freytag, Helmholtz, Nichols's *Modern German Prose*, Paszkowski's *Lesebuch zur Einführung in die Kenntnis Deutschlands und seines geistigen Lebens*, 5th ed., and a text (such as Mosher's *Willkommen in Deutschland*) to introduce the student to the actual language of modern daily life. Talks in German; oral and written reports in German; letter-writing, composition, and conversation. *Professors VON KLENZE and MITCHELL.*

Three hours. Through the year. Elective for students who have credit for 5, 6, or who have passed 3, 4, with grade B; or who presented intermediate German for admission. *1st and 2d div., Tu., Fri., Sat., at 10.20.*

11, 12. *German Lyrical Poetry*

Introduces the student to the various aspects of the life of the German people as reflected in the lyrical poetry of the last two centuries. Lectures in German; oral and written reports in German. *Professor VON KLENZE.*

Three hours. Through the year. Elective for students who have credit for 3, 4, or 7, 8, or 9, 10. *Wed., Fri., Sat., at 11.20.*

[13, 14. *The German Short Story*]

The development of the short story into an art form. The study of the "Novelle" as represented by Kleist, Ludwig, Heyse, Storm, C. F. Meyer, Keller, and others, with frequent reference to the chief writers of the short story in France, England, and America. Lectures and reports in German and English.

Three hours. Through the year. Elective for students who have credit for 3, 4, or 7, 8, or 9, 10. Not offered in 1914-15.

15, 16. *The German Drama of the Nineteenth Century*

Kleist, Grillparzer, Hebbel, Hauptmann, and Sudermann. A study of the development of the German drama from waning romanticism to realism, with frequent reference to the chief representatives of the modern drama in other countries. Mr. KEENAN.

Three hours. Through the year. Elective for students who have credit for 3, 4, or 7, 8, or 9, 10. Tu., Wed., Sat., at 9.20.

[17, 18. *Lessing and Schiller*]

Aims to introduce the student to the dramatic theory and practice of German classicism. Reading of one or two of Lessing's dramatic works and of several of the representative dramas of Schiller, especially *Wallenstein*. Discussions of the dramatic principles of the Greek and the English drama and of their influence upon Lessing and Schiller, with references to the dramatic theories of the nineteenth century. Lectures and reports in German and English.

Three hours. Through the year. Elective for students who have credit for 7, 8, or 9, 10. Not offered in 1914-15.

[21, 22. *Goethe's Faust: Parts 1 and 2*]

Interpretation of the text; study of the Faust legend and of other English and German dramas which present the Faust problem. Lectures and reports.

Three hours. Through the year. Elective for Juniors and Seniors who have credit for 5, 6, and for others by permission. Not offered in 1914-15.

23, 24. *Goethe: A Study of His Life and Works*

Lectures in German; reports on assigned topics; extensive reading. Professor VON KLENZE.

Three hours. Through the year. Elective for students who have credit for 7, 8, or 9, 10. Tu., Th., Sat., at 12.20.

[25, 26. *Outline History of German Literature*]

Aims to acquaint the student with the most important movements in the evolution of German literary life. Lectures in German; reports on assigned topics; extensive reading.

Three hours. Through the year. Elective for students who have credit for 7, 8, or 9, 10. Not offered in 1914-15.

[27, 28. *German Literature in the Nineteenth Century*]

A study of the literary life of Germany as an expression of German

civilization in the nineteenth century. The literary output—Romanic School, Young Germany, Naturalism, Realism, Neo-Romanticism—will be studied, with frequent references to prominent personalities in other domains of intellectual life, such as David Friedrich Strauss, Mommsen, Nietzsche, Wagner. Lectures in German; reports on assigned topics; extensive reading.

Three hours. Through the year. Elective for students who have credit for 7, 8, or 9, 10. Not offered in 1914-15.

31. *Gothic*

The Gothic language, with reading of extracts in Streitberg's *Gotisches Elementarbuch* or Braune's *Gotische Grammatik*. Professor CROWELL.

Three hours. First semester. Elective for Graduates and approved Undergraduates.

32. *Old High German*

Grammar and reading of selections in prose and verse. Some knowledge of Gothic expected. Braune's *Althochdeutsche Grammatik* and Braune's *Althochdeutsches Lesebuch*. Professor CROWELL.

Three hours. Second semester. Elective for Graduates and approved Undergraduates.

[33. *Old Norse*]

Grammar and reading of selections. Holthausen's *Altisländisches Elementarbuch*; Wilken's *Prosaische Edda*; Hildebrand's *Aeltere Edda*.

Three hours. First semester. Elective for Graduates and approved Undergraduates. Students electing Old Norse should also take Germanic Mythology. Not offered in 1914-15.

[34. *Germanic Mythology*]

Primitive Germanic religion, customs, and ideas, in their relations to German literature. Mythological elements in German poetry. Discussions based on E. Mogk's *Germanische Mythologie*.

Three hours. Second semester. Elective for Graduates and approved Undergraduates. Not offered in 1914-15.

[35, 36. *Middle High German*]

The language of the Middle High German period, including an introduction to Germanic philology. Michels' *Mittelhochdeutsches Elementarbuch*; *Das Nibelungenlied*, *Minnesangs Frühling*, *Walter von der Vogelweide*. Lectures in German. Outside reading.

Three hours. Through the year. Elective for Graduates and approved Undergraduates. Not offered in 1914-15.

41, 42. *Seminary in German Literature*

Aims to give training in modern methods of investigation and criticism. To be conducted in German. *Professor VON KLENZE.*

Three hours. Through the year. Elective for Graduates.

XIII. GREEK LITERATURE AND HISTORY

JAMES IRVING MANATT, PH.D., LL.D., *Professor of Greek Literature and History*

FRANCIS GREENLEAF ALLINSON, PH.D., *David Benedict Professor of Classical Philology*

FRANK THURSTON HALLETT, A.M., *Instructor in Greek*

A, B. *Elementary Course*

Designed to cover as much as possible of the entrance requirements, and thus to enable a student to take 1 in the following year if he completes by private study before the opening of the first semester the requirement in Homer, and before the opening of the second semester the requirement in the *Anabasis*. *Mr. HALLETT.*

Three hours. Through the year. Elective for students who did not present elementary and advanced Greek for admission. *Tu., Th., Sat., at 12.20.*

1. *Homer and the Greek Anthology*

Six books of the *Odyssey* in the original, with a general survey of the entire poem. Selections from the Elegiac, Iambic, and Lyric Poets. *Professor MANATT.*

Three hours. First semester. Elective for students who presented elementary and advanced Greek for admission, or who have credit for A, B, and have done the additional work indicated above. *Tu., Th., Sat., at 12.20.*

2. *Plato and Lysias*

Plato: *Apology* and *Crito*, with selections from *Phaedo*, and collateral readings from Xenophon's *Memorabilia* and the *Clouds* of Aristophanes. Lysias: *Orations* VII, XXII, XXIII, XXIV, with collateral reading of Xenophon's *Hellenica*, II. *Professor ALLINSON.*

Three hours. Second semester. Elective for students who have credit for 1. *Tu., Th., Sat., at 12.20.*

3. *Lucian and the Dramatic Poets*

Selections from Lucian. Lectures on the Greek drama. The *Oedipus Tyrannus* of Sophocles and collateral reading in the *Prometheus* of Aeschylus. Professor ALLINSON.

Three hours. First semester. Elective for Sophomores. *Mon., Wed., Th., at 10.20.*

4. *The Historians*

The eighth book of Herodotus, with collateral reading of the *Persians* of Aeschylus and Plutarch's *Themistocles*. The seventh book of Thucydides, with collateral reading of Plutarch's *Pericles* and *Nicias*. Professor MANATT.

Three hours. Second semester. Elective for Sophomores. *Mon., Wed., Th., at 10.20.*

[5. *Epic Poetry*]

The *Iliad*, XVIII-XXIV, with a general study of the poem as a whole. Hesiod: selections from the *Theogony* and the *Works and Days*. Selected Homeric Hymns.

Three hours. First semester. Elective for Juniors and Seniors. Not offered in 1914-15.

[6. *The Drama*]

Menander. Aeschylus: *Seven against Thebes*. Euripides: *Medea*. Aristophanes: *Frogs*.

Three hours. Second semester. Elective for Juniors and Seniors. Not offered in 1914-15.

7. *Lyric and Pastoral Poetry*

Pindar: selected Olympian and Pythian Odes. Bacchylides, v, xvii, xviii. Theocritus: twelve *Idylls*. Professor MANATT.

Three hours. First semester. Elective for Juniors and Seniors. *Wed., Fri., Sat., at 11.20.*

8. *Plato, Aristotle, and Aeschylus*

Plato: selections from the *Republic*. Aristotle: the *Constitution of Athens*. Aeschylus: the *Agamemnon*, with collateral reading of the rest of the *Oresteia*. Professor ALLINSON.

Three hours. Second semester. Elective for Juniors and Seniors. *Wed., Fri., Sat., at 11.20.*

[9. *The Attic Orators*]

Selected speeches of Isaeus, Aeschines, and Demosthenes.

Three hours. First semester. Elective for Juniors and Seniors. Not offered in 1914-15.

[10. *Lucian and Pausanias*]

Three hours. Second semester. Elective for Juniors and Seniors. Not offered in 1914-15.

12. *Greek Composition*

Professor ALLINSON.

One hour. Second semester. Elective for Sophomores, Juniors, and Seniors.

13, 14. *Modern Greek*

Introduction to the language; readings from living Greek authors and Greek newspapers; conversation. Professor MANATT.

One hour. Through the year. Elective for Sophomores, Juniors, and Seniors.

15. *Greek Civilization*

The life of the Greeks from Homer to the second century after Christ, with special study of the political, social, and religious institutions of the classical period as illustrated by the literature, history, and monuments of art. Must be followed in the second semester by Latin 16, Roman Civilization. The two semesters together constitute the course in Classical Civilization. Professor ALLINSON.

Three hours. First semester. Required in the Freshman or Sophomore year of all candidates for the degree of Bachelor of Philosophy. Not elective. *1st div.*, Mon., Th., Fri., at 9.20; *2d div.*, Mon., Tu., Th., at 11.20.

15 B. *Greek Civilization*

This course covers the same ground as 15.

Three hours. Second semester. Elective for Juniors and Seniors who have not taken 15. See Latin 16 B. Tu., Fri., Sat., at 10.20.

17, 18. *Greek Seminary*

First semester, Aristophanes and the Comic Fragments, or Comparative Philology. (See Indo-European Philology 4.) Professor ALLINSON. Second semester, Pindar: Isthmian and Nemean Odes. Professor MANATT.

Three hours. Two hours of attendance. Through the year. Elective for Graduates and approved Seniors.

XIV. HISTORY ‡

WILLIAM MACDONALD, PH.D., LL.D., *George L. Littlefield Professor of American History*

THEODORE FRELINGHUYSEN COLLIER, PH.D., *Associate Professor of European History*

1, 2. *Medieval and Modern History of Europe*

A general survey of the history of western Europe from the time of the barbarian invasions to the present. A narrative text-book supplemented by lectures, frequent written tests, written reports and abstracts on assigned reading, and topics for special investigation. *Professor MACDONALD.*

Three hours. Through the year. Required of candidates for the degree of Bachelor of Arts in the Sophomore or Junior year, and of candidates for the degree of Bachelor of Philosophy in the Freshman, Sophomore, or Junior year. *Mon., Tu., Th., at 2.20.*

3. *History of Christianity: Early and Medieval Period*

A study of organized Christianity, its origins, establishment, expansion, and the development of its institutions and doctrines, from the Apostolic Age to the eve of the Reformation. Lectures and parallel reading, with frequent assignments in the sources. *Professor COLLIER.*

Three hours. First semester. Elective for Juniors, Seniors, and Graduates. With 4 constitutes a continuous year course in Church history, but each course may be elected independently. *Tu., Th., Sat., at 12.20.*

4. *History of Christianity: From the Reformation to the present*

The Reformation; counter-reformation, reaction, and religious conflict; Puritanism and non-conformity; pietism and evangelicalism; Methodism; missions and expansion; main currents of organized Christianity in the nineteenth century. Method as in 3. *Professor COLLIER.*

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates. A continuation of 3, but may be elected independently. *Tu., Th., Sat., at 12.20.*

5. *The French Revolution and the Napoleonic Era*

A survey of the eighteenth century, with particular reference to the causes of the French Revolution, followed by a detailed study of the

‡ The elective courses in History are regularly open only to students who have credit for 1, 2, but by special permission of the instructor elective courses may be taken by students who are at the same time taking 1, 2.

Revolution, its principles and development, and the rise and overthrow of Napoleon. *Professor COLLIER.*

Three hours. First semester. Elective for Juniors, Seniors, and Graduates. With 6 constitutes a continuous year course in modern European history, but each course may be elected independently. *Tu., Fri., Sat., at 10.20.*

6. *Europe since 1815*

The reconstruction of Europe after Napoleon; reaction and revolution; political reorganization, and the formation of the present states of Europe; colonial expansion and world-politics; social development. *Professor COLLIER.*

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates. A continuation of 5, by which it should preferably be preceded. *Tu., Fri., Sat., at 10.20.*

7. *English History to 1603*

A general course in the history of England from the Roman occupation to the close of the reign of Elizabeth. Lectures, parallel reading, frequent tests, and regular assignments in the sources, with written or oral reports. *Professor COLLIER.*

Three hours. First semester. Elective for Juniors, Seniors, and Graduates, and for Sophomores who have credit for 1, 2. *Mon., Tu., Th., at 2.20.*

8. *English History, 1603 to the present*

A study of the eighteenth and nineteenth centuries with particular attention to social and economic development; the diplomatic relations of England with the Continental powers will, for the most part, be taken up in 6. A continuation of 7, following the same method. *Professor COLLIER.*

Three hours. Second semester. Elective for Sophomores, Juniors, Seniors, and Graduates who have credit for 7, and for others by special permission. *Mon., Tu., Th., at 2.20.*

11, 12. *Seminary in European History*

Intensive study of a limited period or of a special phase of social or political development, with a view to training in historical method and the use of the sources. For 1914-15 the subjects are: First semester, The English village in the eighteenth century; a study in rural economic and social conditions. Second semester, Some phases of English social progress in the nineteenth century. *Professor COLLIER.*

Three hours. Two hours of attendance. Through the year. Elective for Graduates and approved Juniors and Seniors.

13, 14. *American History*

A general course, covering the whole period from the beginnings of English colonization to the present time. Intended as an introduction to the advanced courses in American history and for students who wish only a general survey of the subject. *Professor MACDONALD.*

Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Either semester may be elected independently, but 14 should preferably be preceded by 13. *Wed., Fri., Sat., at 11.20.*

15, 16. *Constitutional and Political History of the United States*

An advanced course covering the period from 1783 to the present time. Intended primarily for students who wish to specialize in American history or who expect to study law. *Professor MACDONALD.*

Three hours. Two hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates. *Mon., Wed., at 12.20.*

17, 18. *Seminary in American History*

Designed to afford training in historical investigation and practice in the use of sources. The subjects vary from year to year, and are drawn from both the colonial and the constitutional periods. For 1914-15 the subjects are: First semester, The social history of the American colonies in the eighteenth century. Second semester, The beginnings of party government in the United States. *Professor MACDONALD.*

Three hours. One to two hours of attendance. Through the year. Elective for Graduates and approved Seniors. Should be preceded by 13, 14, or 15, 16, or 19, 20, but in exceptional cases may be taken by students who at the same time are taking one of these groups of courses.

[19. *Social History of America to 1787*]

The historical development of political, social, and religious institutions in the colonial and revolutionary periods.

Three hours. Two hours of attendance. First semester. Elective for Juniors, Seniors, and Graduates. Not offered in 1914-15.

[20. *History of the United States since 1860*]

A narrative course dealing especially with legal and constitutional development, party changes, and international relations. Intended

primarily for students who wish to specialize in American history or who expect to study law.

Three hours. Two hours of attendance. Second semester. Elective for Juniors, Seniors, and Graduates. Not offered in 1914-15.

XV. INDO-EUROPEAN PHILOLOGY

FRANCIS GREENLEAF ALLINSON, PH.D., *David Benedict Professor of Classical Philology*

[2. *General Introduction to the Study of Language*]

Outline of the history of language; the Indo-European family. Adapted for students of ancient or modern languages.

Three hours. Second semester. Elective for Undergraduates. Not offered in 1914-15.

4. *Seminary in Comparative Philology*

For advanced students in Greek and Latin or modern languages.

Three hours. Two hours of attendance. First semester. Elective for Graduates and approved Seniors.

5, 6. *Sanskrit, Elementary Course*

Whitney's *Grammar*; Lanman's *Reader*; selections from the *Vedic Hymns*.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates.

[7, 8. *Sanskrit, Advanced Course*]

Vedic Hymns, and other selections.

One hour. Through the year. Elective for students who have credit for 5, 6. Not offered in 1914-15.

XVI. MATHEMATICS

NATHANIEL FRENCH DAVIS,[†] A.M., LL.D., *Professor of Pure Mathematics*

HENRY PARKER MANNING, PH.D., *Associate Professor of Pure Mathematics*

ROLAND GEORGE DWIGHT RICHARDSON, PH.D., *Associate Professor of Pure Mathematics*

RAYMOND CLARE ARCHIBALD, PH.D., *Assistant Professor of Pure Mathematics*

PERRY BLAINE PERKINS, PH.D., *Assistant Professor of Mechanics*

CLINTON HARVEY CURRIER, A.M., *Instructor in Mathematics*

EDWARD SWITZER ALLEN, PH.D., *Instructor in Mathematics*

INTRODUCTORY STATEMENT[‡]

For students who presented only Algebra and Plane Geometry for admission. Candidates for the degree of Bachelor of Arts, and candidates for the degree of Bachelor of Philosophy who do not intend to take Argumentation in the Sophomore year, are required to take one of the following combinations of courses: (A) 2, 1; (B) 2, 3. Students who intend to specialize in Mathematics are advised to take both 1 and 3 the second semester, or 13, 16 and 17, 18; but if only three hours can be taken in the Freshman year, it is advisable to elect 3 in the second semester.

For students who presented Solid Geometry and Plane Trigonometry for admission. Candidates for the degree of Bachelor of Arts, and those candidates for the degree of Bachelor of Philosophy who do not elect to take Argumentation in the Sophomore year, are required to take one of the following combinations of courses: (A) 5, 6; (B) 5, 3. Students who intend to specialize in Mathematics are advised to take

[†] On leave of absence during the academic year 1914-15.

[‡] Students wishing to specialize in Mathematics should take the undergraduate courses in the order 2, 3, 5, 6, 7, 8, 9. Courses 1, 16, together with as many of courses 21-44 as possible, should be taken as opportunity offers in connection with the other courses.

It is recommended that students who contemplate teaching in the secondary schools elect courses 1-8, 41, 42, 43, 44.

Courses 13, 16, 17, 18, 19, 20, 9, are primarily for candidates for the degree of Bachelor of Science, but may be elected by others.

Courses 21-40 are designed primarily for Graduates. Two or three of these courses are offered each year according to the needs of students. For those who have taken all of them, other courses can usually be arranged.

Unless elected by three students, courses 21-40 may not be given.

both 3 and 6 in the second semester; but if only one course can be taken, it is advisable to elect 6.

For students who presented Solid Geometry and Advanced Algebra for admission. Candidates for the degree of Bachelor of Arts, and those candidates for the degree of Bachelor of Philosophy who do not elect to take Argumentation in the Sophomore year, are required to take either 2, 18 or 2, 16. Students who intend to specialize in Mathematics are advised to take both 18 and 16 in the second semester.

For students who presented Plane Trigonometry and Advanced Algebra for admission. Candidates for the degree of Bachelor of Arts, and those candidates for the degree of Bachelor of Philosophy who do not elect to take Argumentation in the Sophomore year, are required to take either 5, 6 or 5, 1. Students who intend to specialize in Mathematics are advised to take both 6 and 1 in the second semester; but if only one course can be taken, it is advisable to take 6.

2. Plane Trigonometry

Professors MANNING and PERKINS, Mr. CURRIER, Dr. ALLEN.

Three hours. First semester. Required as noted in Introductory Statement. Elective for other Undergraduates who did not present Plane Trigonometry for admission. *One division, Mon., Wed., Fri., at 8; one division, Mon., Th., Fri., at 9.20; three divisions, Tu., Wed., Sat., at 9.20.*

1. Solid and Spherical Geometry

Professor ARCHIBALD, Mr. CURRIER, Dr. ALLEN.

Three hours. Second semester. Required as noted in Introductory Statement. Elective for other Undergraduates who did not present Solid Geometry for admission. *One division, Mon., Wed., Fri., at 8; one division, Mon., Th., Fri., at 9.20; two divisions, Tu., Wed., Sat., at 9.20.*

3. Algebra

Professors MANNING and PERKINS, Mr. CURRIER.

Three hours. Second semester. Required as noted in Introductory Statement. Elective for other Undergraduates who did not present Advanced Algebra for admission. *One division, Mon., Th., Fri., at 9.20; two divisions, Tu., Wed., Sat., at 9.20.*

[4. Algebra]

Not offered in 1914-15.

5. Plane Analytic Geometry

Professor RICHARDSON, Mr. CURRIER.

Three hours. First semester. Required as noted in Introductory Statement. Elective for students who have credit for Plane Trigonometry. *Two divisions, Mon., Th., Fr., at 9.20.*

6. *Analytic Geometry and Differential Calculus*

Professor RICHARDSON.

Three hours. Second semester. Required as noted in Introductory Statement. Elective for students who have credit for 5. *Mon., Th., Fri., at 9.20.*

7, 8. *Differential and Integral Calculus*

A continuation of 6. Professor ARCHIBALD.

Three hours. Through the year. Elective for students who have credit for 6. *Tu., Th., Sat., at 12.20.*

9. *Differential Equations*

Professor MANNING.

Two hours. First semester. Required of candidates for the degree of Bachelor of Science in Electrical Engineering. Elective for students who have credit for 8 or 20. *Tu., Th., at 12.20.*

[12. *Modern Analytic Geometry*]

Three hours. Second semester. Elective for students who have credit for 5. Not offered in 1914-15.

13. *Algebra*

Professor MANNING and Dr. ALLEN.

Three hours. First semester. Required of candidates for the degree of Bachelor of Science. Elective for others who did not present Advanced Algebra for admission. *One division, Wed., Fri., Sat., at 11.20; one division, Mon., Tu., Th., at 11.20.*

16. *Spherical Trigonometry*

Professor MANNING and Dr. ALLEN.

One hour. Second semester. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for Plane Trigonometry. *One division, Th. at 11.20; one division, Sat. at 11.20.*

17. *Plane Trigonometry*

Professors ARCHIBALD and PERKINS.

Three hours. First semester. Required of candidates for the degree of Bachelor of Science. Elective for others who did not present Plane Trigonometry for admission. *One division, Mon., Tu., Th., at 11.20; one division, Wed., Fri., Sat., at 11.20.*

18. *Analytic Geometry*

Professor MANNING and Dr. ALLEN.

Five hours. Second semester. Required of candidates for the degree of Bachelor of Science. Elective for others who have credit for Plane Trigonometry. *One division, Mon., Tu., Wed., Th., Fri., at 11.20; one division, Mon., Tu., Wed., Fri., Sat., at 11.20.*

19, 20. *Differential and Integral Calculus*

Professors RICHARDSON and PERKINS, Dr. ALLEN.

Four hours. Through the year. Required of candidates for the degree of Bachelor of Science. Elective for others who have credit for 5 or 18. *Two divisions, Tu., Wed., Sat., at 9.20; Th. at 8; one division, Tu., Fri., Sat., at 10.20; Wed. at 8.*

[21, 22. *Function Theory of a Complex Variable*]

Three hours. Through the year. Elective for Graduates and approved Juniors and Seniors. Not offered in 1914-15.

23, 24. *Differential Equations, Advanced Course*

Professor MANNING.

Three hours. Through the year. Elective for students who have credit for 21, 22. *Tu., Th., Fri., at 3.20.*

25, 26. *Advanced Algebra*

Among the subjects discussed are the following: linear dependence; systems of linear equations; linear transformations; algebraic invariants; bilinear and quadratic forms; factoring of polynomials in one and in several variables. Professor RICHARDSON.

Three hours. Through the year. Elective by special permission of the instructor. *Mon., Wed., Fri., at 8.*

27, 28. *Projective Geometry*

Introductory course with synthetic and analytic treatment of projective forms of one, two, and three dimensions. Some of the main topics are duality, involution, trilinear and tetrahedral coördinates, sphero-conics, skew cubic and quartic curves. Professor ARCHIBALD.

Three hours. Through the year. Elective for Graduates and approved Undergraduates.

[29, 30. *Function Theory of a Real Variable*]

The foundations of the differential calculus; definite integrals; line integrals; multiple integrals.

Three hours. Through the year. Elective for students who have credit for 25, 26, and for others by special permission. Not offered in 1914-15.

[31, 32. *Applications of Calculus to Geometry*]

Introductory course in the differential geometry of plane and space curves, curved, ruled, and developable surfaces, families and nets of curves on surfaces, triply orthogonal systems of surfaces, and conformal representation of one surface upon another. The historical development of the subject is also presented, and Gauss's memoir on "General Investigations of Curved Surfaces" is read.

Three hours. Through the year. Elective for students who have credit for 8 or 20. Not offered in 1914-15.

39, 40. *Course in Advanced Topics*

Among the topics for discussion are: quadratic forms with a finite number and with infinite many invariables; elementary divisors; linear equations in an infinite number of unknowns; integral equations; boundary value problems in ordinary differential equations. *Professor RICHARDSON.*

Amount of credit to be arranged. Elective for Undergraduates and Graduates who have adequate preparation. *Fri. at 11.20.*

[41, 42. *Fundamental Problems of Algebra*]

An introduction to some of the concepts of modern analysis; designed for students who expect to teach as well as for those who are preparing for advanced work in Mathematics. Among the topics to be treated are: the number system; limits; infinite series; the fundamental operations; determinants.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Not offered in 1914-15.

43, 44. *Foundations, Methods, and Problems of Geometry*

Designed for those who expect to teach Mathematics. The main topics of the course will be: foundations; Euclid and his modern rivals; American, French, German, and Italian texts; methods for attacking Euclidean problems; geometrography; famous problems and transcendence of π ; history. *Professor ARCHIBALD.*

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. *Tu., Th., Sat., at 8.*

XVII. MECHANICAL ENGINEERING†

WILLIAM HERBERT KENERSON, M.E., A.M., *Professor of Mechanical Engineering*

JAMES ALEXANDER HALL,† A.B., Sc.B., *Instructor in Mechanical Engineering*

THOMAS CLARK SHEDD, Sc.B., *Instructor in Mechanical Engineering*

JAMES HENRY CONNOLLY, Sc.B., *Instructor in Mechanical Engineering*

FRANK CARLETON BLAKE, Sc.B., *Assistant in Mechanical Engineering*

HENRY DEWEES CADY, *Instructor in Shop Practice*

1. *Wood-work*

Exercises in carpentry and wood-turning. Assigned reading and written reports. *Mr. CADY.*

Two hours. Five hours of attendance. First semester, *Tu., 2 to 5; Fri., 2 to 4.*

2. *Wood-work*

Exercises in pattern-making. Assigned reading and written reports. *Mr. CADY.*

Two hours. Five hours of attendance. Second semester, *Mon., Th., 2 to 4; Wed. at 11.20.*

3, 4. *Metal-work*

Exercises in chipping and filing; the use of machine tools; forging and hardening tools, etc. Assigned reading and written reports. *Mr. CADY.*

Two hours. Five hours of attendance. Through the year. First semester, *Mon. at 10.20; Tu., Fri., 2 to 4.* Second semester, *Wed., 2 to 4; Fri., 2 to 5.*

5. *Metal-work*

Exercises in chipping and filing; the use of machine tools; forging and hardening tools, etc. Assigned reading and written reports. *Mr. CADY.*

Three hours. Seven hours of attendance. First semester, *Tu., Fri., 2 to 5; Fri. at 9.20.*

6. *Wood-work*

Exercises in carpentry, wood-turning, and pattern-making. *Mr. CADY.*

† All the courses in this department except 6 and 7 are required of candidates for the degree of Bachelor of Science in Mechanical Engineering, and, with the exception of 1-5, are elective for other students.

† On leave of absence during the academic year 1914-15.

Three hours. Seven hours of attendance. Elective in either semester for Sophomores, Juniors, and Seniors who have had instruction in drawing. First semester, *Tu., Fri., 2 to 5*. Second semester, *Mon., Th., 2 to 5*.

7. *Metal-work*

Exercises in chipping and filing; the use of machine tools; forging and hardening tools, etc. *Mr. CADY*.

Three hours. Seven hours of attendance. Elective in either semester for Sophomores, Juniors, and Seniors who have had instruction in drawing. First semester, *Tu., Fri., 2 to 5*. Second semester, *Mon., Th., 2 to 5*.

8. *Machine Drawing and Kinematics*

Representation of machine parts. Velocity ratios, rolling surfaces, cams, and belting. Recitations, drawing, and the solution of problems. *Messrs. SHEDD and CONNOLLY*.

Three hours. Seven hours of attendance. Second semester. Elective for students who have credit for Mechanical Drawing 3. *Tu. at 12.20 and 2.20 to 5.20; Fri., 2.20 to 5.20*.

9, 10. *Kinematics, continued*

Gearing, linkwork, parallel motions, and gear trains; machine tools; the application of the principles involved. Recitations, drawing, and the solution of problems. *Messrs. SHEDD and CONNOLLY*.

Three hours. Seven hours of attendance. Through the year. Elective for students who have credit for 8. *Mon., 2.20 to 5.20; Wed. at 10.20; Fri., 10.20 to 1.20*.

11, 12. *Machine Design*

Applications of the principles of mechanics and the strength of materials to the design of representative types of boilers, engines, and various mechanisms; solution of problems illustrating the method of designing bolts and nuts, keys, journals and bearings, fly-wheels, valve gears, etc. Lectures, calculation, and drawing. *Messrs. SHEDD and CONNOLLY*.

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 9, 10, and Mechanics 2. *Mon., Th., 9.20 to 12.20*.

14. *General Engineering and Design*

Lectures; discussion of special engineering problems. *Professor KENERSON, Messrs. SHEDD and CONNOLLY*.

Three hours. Second semester. *Tu., Th., Sat., at 8*.

15, 16. *Thermodynamics*

Applications of the principles of gases and vapors to steam, gas, and other heat engines, air-compressors, refrigerating apparatus, etc.; discussion of the energy of fuel and the utilization of such energy for power purposes by means of various media; laws of the relation of variations of pressure, temperature, and volume of such media; analysis of the various cycles used in heat engines; the principles of the injector and the ejector. *Professor KENERSON and Mr. BLAKE.*

Three hours. Through the year. Elective for students who have credit for Physics 1, 2. *Tu., Wed., Sat., at 9.20.*

17, 18. *Engineering Practice*

Applications of the principles of thermodynamics and mechanics to the production, transmission, utilization, and measurement of power; valves and valve gears, and valve setting; indicator practice and tests of various forms of steam engines, gas engines, etc.; standardization of auxiliary apparatus used in making the various tests; boiler testing; flue gas and fuel analysis, etc. Lectures, recitations, and laboratory work. *Professor KENERSON and Mr. BLAKE.*

Three hours. Through the year. Elective for students who have credit for or are taking 15, 16. First semester, *Wed., Fri., Sat., at 8.* Second semester, *Wed., Fri., at 8; Tu., 2.20 to 5.20.*

19, 20. *Materials of Engineering*

Study of the sources, manufacture, and properties of the important materials used in engineering; laboratory tests to determine the behavior of materials when subjected to tensile, compressive, and torsional stresses; mixing and testing of cements and mortars; preparation and examination of sections for the microscopical study of the structure of metals and alloys. Lectures, recitations, and laboratory work. *Professor KENERSON and Mr. BLAKE.*

Three hours. Through the year. Elective for students who have credit for or are taking Mechanics 1. *Tu., Fri., at 10.20,* and a two-hour laboratory period to be arranged with the instructor.

21. *Power Plant Engineering*

Discussion of the relation and coördination of the various parts of the complete power plant; management, and methods of determining efficiency; selection of the best equipment from manufacturers'

catalogues and actual inspection. Lectures, recitations, tests, and tours of inspection. *Professor KENERSON and Mr. SHEDD.*

Three hours. First semester. Elective for students who have credit for 15, 16. *Tu., 2.20 to 5.20; Tu., Th., at 8.*

22. *Advanced Laboratory Course*

Steam, gas, and power engineering. Conferences and Laboratory work. Particular emphasis laid on preparation and form of reports. *Professor KENERSON, Messrs. SHEDD and BLAKE.*

Three hours. Second semester. *Mon., Th., 2 to 5.*

24. *Applied Hydraulics*

Laboratory experiments in connection with Mechanics 4. *Professor KENERSON, Messrs. SHEDD and BLAKE.*

One hour. Second semester. Must be taken with Mechanics 4.

25, 26. *Thesis*

A thesis is required of all candidates for the degree of Bachelor of Science in Mechanical Engineering. The thesis must embody a design or a review of an engineering plant, appliance, process, or structure, or the results of an experimental investigation.

XVIII. MECHANICS AND MECHANICAL DRAWING

OTIS EVERETT RANDALL, PH.D., *Professor of Mechanics and Mechanical Drawing*

ANSEL BROOKS, PH.B., M.E., *Associate Professor of Mechanics and Mechanical Drawing*

PERRY BLAINE PERKINS, PH.D., *Assistant Professor of Mechanics*

PAUL HART FRANCIS, SC.M., *Instructor in Mechanical Drawing*

MECHANICS

1, 2. *Mechanics of Solids*

Statics, including resolution and composition of forces, determination of center of gravity, and problems relative to rigid bodies and flexible cords; dynamics, including rectilinear and curvilinear motion, virtual velocity, moment of inertia, work, energy and power, and friction; strength of materials, including tension, compression, shearing,

torsion, and flexure; methods of graphical solution of problems. *Professor BROOKS.*

Four hours. Through the year. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for Mathematics 7, 8. *Mon., Tu., at 11.20; Th., 10.20 to 12.20.*

3. *Mechanics of Fluids*

Hydrostatics; nature and use of instruments; flow through orifices, over weirs, through tubes, through pipes, in conduits; flow of rivers; water supply and water power. *Professor BROOKS.*

Three hours. First semester. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for 1, 2. *Wed., Fri., Sat., at 11.20.*

4. *Applied Hydraulics*

Dynamics of water; theoretical consideration of water wheels, pumps, and pumping machinery. *Professor BROOKS.*

One hour. Second semester. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for 3. Must be taken with Civil Engineering 34, and Mechanical Engineering 24. *Wed., Fri., Sat., at 11.20.* First five weeks of semester.

5, 6. *Mathematical Mechanics*

Comprehensive treatment of the principles of statics and dynamics; strength of materials; higher theoretical and practical problems. Intended primarily for students who are interested in the application of the principles of pure mathematics. *Professor PERKINS.*

Three hours. Through the year. Elective for Seniors and Graduates who have credit for Mathematics 7, 8.

MECHANICAL DRAWING

1. *Elementary Mechanical Drawing*

Nature, care, and use of drafting instruments; lettering; plane problem construction; curve tracing; elementary projection. *Professor BROOKS and Mr. FRANCIS.*

Three hours. Six hours of drawing. First semester. Required in the Freshman year of candidates for the degree of Bachelor of Science. *Tu., Fri., 2.20 to 5.20.*

2. *Descriptive Geometry*

Discussion, proof, and graphic solution of problems relating to the point, line, and plane, line and surface generation and classification. *Professor RANDALL and Mr. FRANCIS.*

Three hours. Two hours of recitation and three hours of drawing. Second semester. Required in the Freshman year of candidates for the degree of Bachelor of Science. *Tu., Fri., 2.20 to 5.20.*

3, 4. *Descriptive Geometry*

Discussion, proof, and graphic solution of problems relating to the point, line, and plane, line and surface generation and classification, surface tangency, intersections, and developments; application of the principles of descriptive geometry in isometric drawing, shades and shadows and perspective, machine drawing, and practical engineering problems. *Professor RANDALL and Mr. FRANCIS.*

Three hours. Two hours of recitation and three hours of drawing. Through the year. Required in the Sophomore year of candidates for the degree of Bachelor of Science. Elective for students who have credit for 7, 8. *1st div., Mon., Fri., at 9.20; 2d div., Tu., Sat., at 10.20.*

7, 8. *Elementary Mechanical Drawing*

Nature, care, and use of drafting instruments; lettering; plane problem construction; curve tracing; elementary projection. *Mr. FRANCIS.*

Three hours. Six hours of drawing. Through the year. Elective for Undergraduates. *Tu., Fri., 2.20 to 5.20.*

XIX. MUSIC

EDWIN ERNEST WILDE, *Lecturer in Music*

1, 2. *The Appreciation of Music*

The aim of this course is to increase the appreciation of music by acquainting the student with the various devices used in musical composition, tracing the development of musical form from the early folksongs to the symphonic poems of our modern writers. Analytical study of important works of the representative composers from Bach to Wagner, Tschaikowsky, and Strauss. Lectures, illustrations at the piano and by soloists.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. *Mon., Wed., Fri., at 12.20.*

XX. PHILOSOPHY

EDMUND BURKE DELABARRE, PH.D., *Professor of Psychology*

WALTER GOODNOW EVERETT, PH.D., *Professor of Philosophy and Natural Theology*

ALFRED HARRISON JONES, PH.D., *Assistant Professor of Logic*

FREDERICK MARSHALL JENCKS, A.M., *Assistant in Philosophy*

1, 2. *Logic*

The aims, methods, and principles of thought; designed to introduce the student to the study of philosophy through a criticism of the nature and limits of science and philosophy, and an estimate of their validity for religion and life. *Professor JONES.*

Three hours. Through the year. Elective for Sophomores and Juniors. *Mon., Th., Fri., at 9.20.*

3, 4. *Psychology and Ethics*

First semester, *Psychology*. A survey of the main facts and laws of mental life, aiming to provide a sound foundation for further acquaintance with this and allied subjects, for an improved judgment in dealing with many practical problems, and for understanding the psychological bases of philosophy. Second semester, *Ethics*. An introductory course dealing in a concrete way with the moral values of daily experience, and intended to aid the student in forming a practical philosophy of life. First semester, *Professor DELABARRE*. Second semester, *Professor EVERETT*.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Either semester may be elected independently by Seniors only. *Tu., Wed., Sat., at 9.20.*

5, 6. *Psychology, Intermediate Course*

A study of the fundamental principles on which a scientific system of psychology must be based. The nature and composition of consciousness, its relation to bodily processes, and its complete subjection to law. The criteria for accepting evidence and forming sound judgments in connection with the problems of so-called "psychical research." *Professor DELABARRE.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for a course in Psychology.

7, 8. *History of Philosophy*

The successive philosophical systems as revealing the logical development of European philosophy. The treatment also aims to exhibit the significant relations which philosophy has sustained to civilization, especially in its fundamental political, scientific, religious, and cultural elements. *Professor EVERETT.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. *Mon., Th., Fri., at 9.20.*

9. *Philosophy of Religion*

A constructive study of the nature of the religious consciousness, and of the ultimate problems of religious belief. *Professor EVERETT.*

Three hours. First semester. Elective for Juniors, Seniors, and Graduates who have credit for a year course in Philosophy. *Wed., Fri., Sat., at 11.20.*

10. *Applications of Psychology*

Description of some of the important ways in which the principles of psychology are being practically applied to the problems of modern life. *Professor DELABARRE.*

Three hours. Second semester. Elective for students who have credit for 3. *Tu., Wed., Sat., at 9.20.*

11, 12. *Experimental Psychology, Introductory Laboratory Course*

Description of the main lines and results of experimental research; demonstrations by the instructor or the class; training in the use of apparatus and in careful scientific observation and measurement. *Professor DELABARRE.*

Three hours. Six hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 3.

13, 14. *Current Tendencies in Philosophy*

A course designed to introduce the student to the more important philosophical theories of the present day, as illustrated in the work of such representative thinkers as Spencer, Royce, James, Bergson, and Russell. *Professor JONES.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. *Wed., Fri., Sat., at 11.20.*

25, 26. Idealism and Realism

A seminary for the study of idealistic and realistic theories of philosophy. Especial attention will be devoted to the New Realism of the present day. *Professor JONES.*

Three hours. Through the year. Elective for Seniors and Graduates who have credit for a year course in Philosophy.

30. History of Religion

An outline study of the history of the principal religions of the world. This course is the same as Course 30 offered by the Department of Biblical Literature and History. *Professors FOWLER and JONES.*

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates. *Mon., Wed., Fri., at 12.20.*

17, 18. Psychology, Advanced Course

A seminary for the discussion of important problems in psychology. The problems discussed will vary, and the course may be taken for two or more years. *Professor DELABARRE.*

Three hours. Through the year. Elective for Seniors and Graduates who have credit for 5, 6.

19, 20. Experimental Psychology, Advanced Laboratory Course

The aim is to study further the problems of experimental psychology, and, whenever possible, to make original contributions to scientific knowledge. The problems investigated will vary, and the course may be taken for two or more years. *Professor DELABARRE.*

One to six hours. Two to twelve hours of attendance. Through the year. Elective for students who have credit for 11, 12. May be taken for more than six hours by Graduates.

[21, 22. Advanced Ethics]

A seminary course for the study of the more important problems of ethical theory. Lectures, written reports, and discussions.

Three hours. Through the year. Elective for Seniors and Graduates who have credit for a year course in Philosophy. Not offered in 1914-15.

23, 24. Philosophical Seminary

A seminary for the study of the problems of historical and contemporary thought. Reading, written reports, and discussions. Subject for 1914-15: Contemporary Studies in the Philosophy of Religion, based

chiefly upon the works of Hoeffding, Royce, Hocking, Leuba, and Eucken. *Professor EVERETT.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for a year course in Philosophy.

XXI. PHYSICS

CARL BARUS, PH.D., LL.D., *Hazard Professor of Physics*

ALBERT DEFOREST PALMER, PH.D., *Associate Professor of Physics*

ARTHUR EUGENE WATSON, PH.D., *Assistant Professor of Electrical Engineering*

ROBERT FRANKLIN FIELD, A.M., *Instructor in Physics*

1, 2. *Elementary Physics* †

Designed for those who have had little previous training in physics. First semester, dynamics, molecular physics, and heat. Second semester, optics, acoustics, and electricity. Discussion of the more elementary features of the subjects. Lectures illustrated by experiments and the lantern; weekly written exercises. *Professor BARUS.*

Three hours. Through the year. Elective for Undergraduates who have credit for entrance algebra and plane geometry. *Mon., Wed., Th., at 10.20.*

27, 28. *Elementary Physics*

Identical with 1, 2, except that the written exercises mentioned will be replaced by problems solved in an additional hour in the classroom. D. E. JONES's *Examples in Physics* (Macmillan) are to be used. *Professor BARUS and Mr. FIELD.*

Three hours. Through the year. Four hours of attendance. Required of all candidates for the degree of Bachelor of Science. *Mon., Wed., Th., at 10.20; Fri. at 11.20.*

3, 4. *Elementary Physics, continued* §

Treats the more advanced parts of the subjects taken in the same order as in 1, 2. *Professor BARUS.*

Three hours. Through the year. Elective for students who have credit for 1, 2, and Mathematics 1, 2. *Tu., Fri., Sat., at 10.20.*

† Students who intend to teach Physics should elect courses 1, 2; 3, 4; 5, 6.

§ Graduates taking course 3, 4 are held responsible for all the demonstrations, or for the full equivalent of either Watson's or Daniel's *Principles of General Physics*.

5, 6. *Experimental Physics*

An introduction to the theory and practice of physical manipulation. Experimental study of physical phenomena selected to meet the needs of individual students. Written reports and solution of problems. *Professor PALMER.*

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2.

7, 8. *Mathematical Treatment of Dynamical Problems*‡

First semester, discussion of the general principles of dynamics and the development of the general equations of motion. Second semester, application of these principles to special problems in thermodynamics and hydrodynamics. *Professor PALMER.*

Three hours. Through the year. Elective for Seniors and Graduates who have credit for 5, 6, and Mathematics 9, 10.

9, 10. *Mathematical Theory of Electricity and Magnetism*‡

Includes a discussion of the more important problems of electrical science. *Professor PALMER.*

Three hours. Through the year. Elective for Graduates and Seniors who have credit for 5, 6, and Mathematics 9, 10.

11, 12. *Advanced Laboratory Course*

Special problems and reference to original sources for methods of solution. *Professors BARUS, PALMER, and WATSON.*

Three or six hours. Six or twelve hours of attendance. Through the year. Elective for students who have credit for 5, 6.

13, 14. *Applied Harmonic Analysis and Applied Vector Analysis* §

Importance of Fourier's method shown by examples drawn from the analytical theory of heat, from elastics, alternating electricity, and elsewhere; treatment by the aid of spherical harmonics. Bessel functions and Lamé functions; the chief theorems of vector analysis deduced and applied to dynamics, elastics, hydrodynamics, the electro-magnetics of Maxwell and Hertz, and the electronic theory of Heaviside, Lorentz, and others. *Professor BARUS.*

‡ In determining which of the two courses 7, 8, and 9, 10, shall be offered in any given year, the preference of students will be considered.

§ In determining the content of courses 13, 14, and 15, 16, the preference of students will be considered.

Three hours. Through the year. Required in the second semester of candidates for the degree of Bachelor of Science in Electrical Engineering. Elective for Seniors and Graduates who have credit for 1, 2, and Mathematics 7, 8.

15, 16. *Physics, Advanced Course* ‡

Lectures on dynamics, potential, elastics, hydrostatics, hydrodynamics, viscosity, capillarity, electrostatics, magnetism, electro-magnetism, thermo-electrics, induction, Fresnel's optics, the electro-magnetic theory of light, thermal analytics, and thermodynamics. *Professor BARUS.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for Mathematics 7, 8.

21, 22. *Theory of Measurements*

Lectures and recitations on the theory and precision of measurements, and on methods of taking, recording, and reducing observations; laboratory instruction in selected physical measurements. *Professor PALMER and Mr. BLAKE.*

Three hours. Five hours of attendance. Through the year. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for 1, 2, and Mathematics 7, 8, or 19, 20. *Mon., Fri., at 12.20.* Laboratory hours will be posted in 11 Wilson Hall on the first day of each term.

23, 24. *Precision Measurements in Photometry, Electricity, and Magnetism*

Professor PALMER.

Four hours. Eight hours of attendance. Through the year. Elective for students who have credit for 5, 6, or 21, 22, and Mathematics 7, 8, or 19, 20.

25, 26. *Radiation, Optics, and Heat*

Experimental study of selected phenomena; demonstrations and personal conferences. *Professor PALMER.*

Three or six hours. Six or twelve hours of attendance. Through the year. Elective for students who have credit for 5, 6, or 21, 22.

‡ In determining the content of courses 13, 14, and 15, 16, the preference of students will be considered.

ELECTRICAL ENGINEERING‡

*Professor WATSON and Mr. FIELD***1, 2. *Introductory Technical Course***

Fundamental principles of electricity and magnetism; theory of dynamo-electric machinery; methods of generating and utilizing direct currents; characteristics of generators and motors.

Three hours. Two hours of recitation and two hours of laboratory work. Through the year. Elective for students who have credit for Physics 1, 2, or 27, 28, and Mathematics 5 or 18. Required of candidates for the degree of Bachelor of Science in Mechanical Engineering. *Tu. at 10.20; Fri. at 9.20.* First three weeks of first semester, *Sat. at 10.20.*

3. *Elementary Electrical Engineering*

A short course covering the methods of generating, transmitting, distributing, and utilizing electrical energy.

Three hours. Two hours of recitation and two hours of laboratory work. First semester. Elective for students who have credit for Physics 1, 2, or 27, 28, and Mathematics 5 or 18. Required of candidates for the degree of Bachelor of Science in Civil Engineering. *Mon., Th., at 9.20.* First three weeks, *Sat. at 10.20.*

[5. *Telegraph Engineering*]

History and present practice of telegraphic, signaling, and protective systems.

One hour. First semester. Elective for students who have credit for Physics 1, 2, or 27, 28. Not offered in 1914-15.

[6. *Telephone Engineering*]

Magneto and common-battery manual systems; automatic systems; equipment of central and branch exchanges.

Two hours. Second semester. Elective for students who have credit for 1 or 3. Not offered in 1914-15.

7. *Telephone and Telegraph Engineering*

Temporary combination of 5 and 6.

Three hours. Four hours of attendance. First semester. Elective in 1914-15 for students who have credit for Physics 1, 2. *Mon., Th., Fri., at 10.20.*

‡ All the courses in this department, except 3, are required of candidates for the degree of Bachelor of Science in Electrical Engineering.

8. *Direct Current Machine Design*

Calculation and design of generators, motors, and auxiliary apparatus. Three hours. Second semester. Elective for students who have credit for 1. *Mon.*, 9.20 to 11.20; *Th.* at 9.20.

9. *Theory of Alternating Currents*

A mathematical and graphical treatment of circuits containing resistance, inductance, and capacity. Principles of alternating current machinery.

Three hours. Two hours of recitation and two hours of laboratory work. First semester. Elective for students who have credit for 2 and Mathematics 20. After 1914-15, four hours. Three hours of recitation and two hours of laboratory work. *Mon.*, *Th.*, at 9.20.

10. *Alternating Current Machinery*

Methods of generating and utilizing alternating currents; characteristics of generators, motors, converters, and transformers.

Three hours. Two hours of recitation and two hours of laboratory work. Second semester. Elective for students who have credit for 2. *Wed.*, *Fri.*, at 10.20.

[11. *Alternating Current Machinery*]

Identical with 10, and to be substituted for it after 1916-17.

Three hours. First semester. Not offered in 1914-15.

14. *Alternating Current Machine Design*

Calculation and design of generators, motors, transformers, and auxiliary apparatus.

Three hours. Four hours of attendance. Second semester. Elective for students who have credit for 9. *Mon.*, *Fri.*, at 9.20; *Mon.*, *Tu.*, at 10.20.

16. *Traction and Transmission Engineering*

Electric railway systems and equipment; theory and design of high tension transmission lines and low tension net-works.

Three hours. Second semester. Elective for students who have credit for 11. *Mon.*, *Tu.*, *Th.*, at 11.20.

17, 18. *Seminary in Electrical Engineering*

Reading and discussion of current technical literature.

One hour. Through the year. Elective for students who have credit for 2. 17 will not be offered until 1917-18. *Th.* at 10.20.

19, 20. *Thesis*

A thesis is required of all candidates for the degree of Bachelor of Science in Electrical Engineering excepting those who, with the permission of the head of the department, are allowed to substitute a regular three-hour course for one semester in some other department. The thesis must embody a design or a review of an engineering plant, appliance, process, or structure, or the results of an experimental investigation.

XXII. ROMAN LITERATURE AND HISTORY

ALBERT GRANGER HARKNESS, A.M., LITT.D., *Professor of Roman Literature and History*

JOHN FRANCIS GREENE, A.M., *Associate Professor of Roman Literature and History*

1. *Livy*

Designed to enable the student to acquire facility in reading Latin, and to instruct him in the use of the Latin texts as a means of gaining a knowledge of Roman history. Grammatical study and literary criticism also receive attention. *Professors HARKNESS and GREENE.*

Three hours. First semester. Elective for students who presented elementary and advanced Latin for admission. *1st div., Wed., Fri., Sat., at 11.20; 2d div., Tu., Th., Sat., at 12.20.*

2. *Cicero's Letters*

Aims and methods as in 1. *Professors HARKNESS and GREENE.*

Three hours. Second semester. Elective for students who presented elementary and advanced Latin for admission. *1st div., Wed., Fri., Sat., at 11.20; 2d div., Tu., Th., Sat., at 12.20.*

3. *Horace's Odes and Epodes, Tibullus, Propertius*

Critical study of the poems, supplemented by rapid reading with a view to comprehending the spirit of the author. The literary side of the study is made prominent. Lectures; literary topics assigned to the class for special study. *Professor GREENE.*

Three hours. First semester. Elective for Sophomores. *Mon., Wed., Fri., at 12.20.*

4. *Horace's Satires and Epistles, Juvenal*

Aims and methods as in 4. *Professor HARKNESS.*

Three hours. Second semester. Elective for Sophomores. *Mon., Wed., Fri., at 12.20.*

[5, 6. *Latin Poetry*]

Aims to give a connected and comprehensive view of the history and development of Latin poetry. Lectures on the lives and writings of the authors; reading of characteristic selections; special study by members of the class of assigned topics in literary history and criticism. First semester, Plautus. Second semester, Lucretius and Catullus. Forms with 7, 8 a two-year consecutive course, affording a general survey of Roman literature.

Three hours. Through the year. Elective for Juniors and Seniors. Either semester may be elected independently. Not offered in 1914-15.

7, 8. *Latin Prose*

Aims to give a connected and comprehensive view of the history and development of Latin prose. Lectures on the lives and writings of the authors, on the development of oratory, etc.; reading of characteristic selections; special study, by members of the class, of assigned topics in literary history and criticism. First semester, specimens of early Latin, Cicero's *Brutus*, and Quintilian. Second semester, the *Annals* of Tacitus. Forms with 5, 6 a two-year consecutive course, affording a general survey of Roman literature. *Professors HARKNESS and GREENE.*

Three hours. Through the year. Elective for Juniors and Seniors. Either semester may be elected independently. *Tu., Wed., Sat., at 9.20.*

9, 10. *Petronius, Pliny the Younger, Martial*

Professor HARKNESS.

One hour. Through the year. Elective for Juniors, Seniors, and Graduates. *Fri. at 2.20.*

[11, 12. *Latin Composition*]

Professor GREENE.

One hour. Through the year. Elective for Sophomores, Juniors, and Seniors. Not offered in 1914-15.

13, 14. *History of the Roman Empire*

The Early Empire. The Age of the Antonines. The Age of Constantine. *Professor GREENE.*

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Either semester may be elected independently. *Tu., Wed., Sat., at 9.20.*

16. *Roman Civilization*

An outline of Roman civilization and its influence on modern times. Special attention will be given to the literature and to the political and social life. No knowledge of Latin required. Must be preceded in the first semester by Greek 15, Greek Civilization. The two semesters together constitute the course in Classical Civilization. *Professors HARKNESS and GREENE.*

Three hours. Second semester. Required in the Freshman or Sophomore year of candidates for the degree of Bachelor of Philosophy. Not elective. *1st div., Mon., Th., Fri., at 9.20; 2d div., Mon., Tu., Th., at 11.20.*

16 B. *Roman Civilization*

This course covers the same ground as 16.

Elective for Juniors and Seniors who have not taken 16. Followed in the second semester by Greek 15 B. Three hours. First semester. *Tu., Fri., Sat., at 10.20.*

17, 18. *Seminary in Latin*

Subject for 1914-15: Reading from the poetry of the Empire. Gudeman's *Latin Literature of the Empire*, vol. II. Questions in textual criticism and in the structure of Latin verse will be considered. *Professors HARKNESS and GREENE.*

Three hours. Two hours of attendance. Through the year. Elective for Graduates.

XXIII. ROMANCE LANGUAGES AND LITERATURES

COURTNEY LANGDON, A.B., *Professor of the Romance Languages and Literatures*

ALBERT BUSHNELL JOHNSON, A.M., *Associate Professor of the Romance Languages and Literatures*

CHARLES HERMAN HUNKINS, DR. de l'Université de Paris, *Assistant Professor of the Romance Languages and Literatures*

ASA CLINTON CROWELL,† PH.D., *Associate Professor of the Germanic Languages and Literatures*

HENRI FELIX MICOLEAU,† *Assistant Professor of the Romance Languages and Literatures*

BERNARD KEENAN, A.M., *Instructor in French*

1, 2. *Elementary French, First Year*

Grammar, composition, dictation, conversation; translation of selections from modern authors into idiomatic English. Mr. KEENAN.

Three hours. Through the year. Elective for students who did not present French for admission. *Mon., Wed., Fri., at 8.*

3, 4. *Elementary French, Second Year*

Reading of easy modern French prose in the form of stories, plays, or historical or biographical sketches; review of grammar; composition and conversation based upon the texts read. *Professors JOHNSON and HUNKINS.*

Three hours. Through the year. Elective for students who have credit for 1, 2, or who presented elementary French (1 year) for admission. *1st div., Wed., Fri., Sat., at 11.20; 2d div., Mon., Wed., Fri., at 8.*

5, 6. *Intermediate French*

Reading of modern and classical authors; review of grammar; composition and conversation based upon the texts read; dictation. *Professors HUNKINS and CROWELL.*

Three hours. Through the year. Elective for students who have credit for 3, 4, or who presented elementary French (2 years) for admission. *1st div., Wed., Fri., Sat., at 11.20; 2d div., Tu., Wed., Sat., at 9.20; 3d div., Mon., Th., Fri., at 9.20.*

† Assisting during the academic year 1914-15 in the department of Romance Languages and Literatures.

† On leave of absence during the academic year 1914-15.

7, 8. *Advanced French*

An introduction to classical and modern French literature; composition; conversation based on the texts read; dictation. *Professors JOHNSON and HUNKINS.*

Three hours. Through the year. Elective for students who have credit for 5, 6, or who presented intermediate French for admission. *1st div., Mon., Th., Fri., at 9.20; 2d div., Wed., Fri., Sat., at 11.20; 3d div., Mon., Th., Fri., at 9.20.*

[9, 10. *The Realistic School*]

Flaubert, Augier, the younger Dumas, the Goncourts, Daudet, Zola, Taine, Loti, and others; abstracts, in French, of works read outside the class; sight reading a prominent feature.

Three hours. Through the year. Elective for students who have credit for 7, 8. Not offered in 1914-15.

11, 12. *The Romantic School*

The history of the romantic school; reading of authors from Chateaubriand and Victor Hugo to Rostand; abstracts on outside reading. Lectures in English and in French. *Professor LANGDON.*

Three hours. Through the year. Elective for students who have credit for 7, 8. *Mon., Wed., Th., at 10.20.*

[13, 14. *The Classical School*]

The history of the classical school; its formation, its apogee, and its decline. Lectures in French.

Three hours. Through the year. Elective for students who have credit for 9, 10, or 11, 12, and for approved students who have credit for 7, 8. Not offered in 1914-15.

15, 16. *Modern Spanish*

Grammar, conversation, composition, and reading of modern authors. *Professor JOHNSON.*

Three hours. Through the year. Elective for Juniors and Seniors, and for Sophomores not electing more than one other modern language. *Tu., Fri., Sat., at 10.20.*

17, 18. *Modern Italian*

Grammar, composition, and reading of modern authors. *Professor LANGDON.*

Three hours. Through the year. Elective for Juniors and Seniors, and for

Sophomores not electing more than one other modern language. *Mon., Th., Fri., at 9.20.*

19, 20. *Dante in English*

A study of the whole of the *Divina Commedia* in English, in the light of modern thought and of other world-poems. *Professor LANGDON.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Students are advised to elect this course in their Senior year. *Mon., Tu., Th., at 11.20.*

[21, 22. *Spanish Language and Literature*]

Selected works of classical and modern authors; composition; conversation.

Three hours. Through the year. Elective for students who have credit for 15, 16. Not offered in 1914-15.

23, 24. *Practice in Writing and Speaking French*

Intended especially for those preparing to teach. Written and oral translations from English into French. Conversation; dictation; phonetics. *Professor JOHNSON.*

Three hours. Through the year. Elective for students who have credit for 7, 8. *Mon., Tu., Th., at 11.20.*

XXIV. SOCIAL AND POLITICAL SCIENCE†

JAMES QUAYLE DEALEY, PH.D., *Professor of Social and Political Science*

JOHN CORLISS DUNNING, LL.B., PH.D., *Assistant Professor of Political Science*

LUCIUS MOODY BRISTOL, PH.D., *Assistant Professor of Sociology*

SOCIAL SCIENCE§

1. *Elementary Social Science*

This course aims to present a general outline of sociological teachings, a brief discussion of some of the more important modern social

† Semester courses in this department may be elected separately unless otherwise stated.

§ The advanced courses in Social Science are open only to students who have credit for Economics 1 and Social Science 1, but students who have completed Economics 1 and Political Science 1 may elect advanced courses in Social Science, provided that either Social Science 1 or 3 or 4 is first elected.

problems, and a study of the rise and development of the family. *Professor DEALEY.*

Three hours. First semester. *Mon., Wed., Fri., at 12.20.* A year course consisting of Economics 1, and either Social Science 1 or Political Science 1, is required in Sophomore, Junior, or Senior year of candidates for the degree of Bachelor of Arts and Bachelor of Philosophy, and in Sophomore year of candidates for the degree of Bachelor of Science. These courses will be given in two sections. For the first section Economics will be given in the first semester and Political Science in the second semester. *Tu., Fri., Sat., at 10.20.* For the second section Social Science will be given in the first semester and Economics in the second semester. *Mon., Wed., Fri., at 12.20.* Students must indicate their choice of sections on the registration card.

3, 4. *Social Problems and Conditions*

Modern social problems, such as poverty, intemperance, crime, immigration, and child welfare. Movements for social betterment, including improved housing, social centers, and civic recreation. Principles underlying social and philanthropic work. *Professor BRISTOL.*

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. *Mon., Wed., Fri., at 12.20.*

5. *Origin and Development of Society*

Formation and dispersion of primitive groups; union and coalescence of groups; origin of races; the race struggle; institutions growing out of the race struggle; development of social institutions and problems involved; stages of culture. *Professor BRISTOL.*

Three hours. First semester. Followed in second semester by 16. Elective for Juniors, Seniors, and Graduates. *Tu., Th., Sat., at 12.20.*

16. *Social Psychology*

Genesis of the social instincts. The individual and society. Psychology of the crowd; social suggestion and imitation. The psychology of social groups. Psychological principles underlying social order and progress. Applications of the principles of social psychology to modern social problems. *Professor BRISTOL.*

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates. *Tu., Th., Sat., at 12.20.*

7. *Sociology as a Science*

Relation of sociology to other sciences and its fundamental teach-

ings; the principles underlying the development of society and its great social institutions. *Professor DEALEY.*

Three hours. First semester. Followed in the second semester by 8. Elective for Juniors, Seniors, and Graduates. *Mon., Tu., Th., at 11.20.*

8. *Sociology in its Applications*

Sociological principles and teachings in respect to social progress in its chief aspects. A survey of the constructive trend in modern civilization. *Professor DEALEY.*

Three hours. Second semester. Preceded in the first semester by 7. Elective for Juniors, Seniors, and Graduates. *Mon, Tu., Th., at 11.20.*

11, 12. *Seminary in Sociology*

First semester, a study of ancient and medieval teachings relating to society and social progress. The great precursors of sociology in the eighteenth century. Second semester, a survey of the chief sociological systems set forth since the beginning of the nineteenth century, and the influence exerted by these on the life and institutions of modern society. *Professor DEALEY.*

Three hours. Through the year. Elective for Seniors and Graduates. *Mon., Th., 4.30 to 6.* Not to be offered in 1915-16.

13, 14. *Training Course for Social Service*

Practical work in connection with the Society for Organizing Charity and other approved social organizations. Study of methods of gathering, interpreting, and presenting data in the study of social problems. Investigation of one or more specific problems. *Professor BRISTOL.*

Three hours. Five hours of field work and one hour of classroom discussion. This course must be preceded or accompanied by Social Science 3, 4. Through the year. Elective for Graduates and for a limited number of approved Juniors and Seniors. *Fri., 5 to 6.*

POLITICAL SCIENCE‡

1. *Elementary Political Science*

(See Social Science 1.) A study of political development, the forms and functions of government, and the growth of modern democracy.

‡ The advanced courses in Political Science are open only to those students who have credit for Economics 1 and Political Science 1. But students who have completed Economics 1 and Social Science 1 may elect advanced courses in Political Science, provided that either Political Science 1 or 3 or 4 is first elected.

Illustrative material will be drawn chiefly from the political systems and problems of English-speaking peoples. *Professor DEALEY.*

Three hours. Second semester. *Tu., Fri., Sat., at 10.20.*

3, 4. *Government and Politics of the United States*

First semester, national government, its organization, powers, and methods; current political issues. Second semester, state and municipal governments; framework and activities of European and American municipalities. *Professor DUNNING.*

Three hours. Elective for Juniors, Seniors, and Graduates. *Mon., Th., Fri., at 9.20.*

5. *Governments and Politics of Foreign States*

The political systems of typical leading states, including some of the states of Latin-America. Current international political situations and problems. *Professor DUNNING.*

Three hours. First semester. Followed in the second semester by 6. Elective for Juniors, Seniors, and Graduates. *Mon., Wed., Th., at 10.20.*

6. *International Law*

The development of the science of International Law. The general principles guiding the relations of states. Illustrative concrete cases. *Professor DUNNING.*

Three hours. Second semester. Preceded in the first semester by 5. Elective for Juniors, Seniors, and Graduates. *Mon., Wed., Th., at 10.20.*

7. *Jurisprudence*

An analysis of the fundamental concepts of the science of Law. The historical development of Roman and English legal systems. *Professor DUNNING.*

Three hours. First semester. Followed in the second semester by 8. Elective for Seniors and Graduates. *Tu., Wed., Sat., at 9.20.*

8. *Constitutional Law*

Principles and development of American constitutional law. Case system. *Professor DUNNING.*

Three hours. Second semester. Preceded in the first semester by 7. Elective for Seniors and Graduates. *Tu., Wed., Sat., at 9.20.*

[9, 10. *Seminary in Political Science*]

A study of ancient and modern political theories. Rise of modern

democratic principles. Present theories in respect to the state; its origin, sovereignty, and forms of government.

Three hours. Through the year. Elective for Seniors and Graduates. Not offered in 1914-15.

13, 14. *Investigation of Special Topics*

Intended to train students in methods of gathering and presenting data in the study of political problems. In connection with this course, work in comparative legislation may be taken under the direction of the Legislative Reference Bureau of the State Library. *Professor DUNNING.*

Three hours. Five hours of investigation and one hour of classroom work. Through the year. Elective for Graduates, and for a limited number of approved Seniors. *Th., 5 to 6.*

PHYSICAL TRAINING

FREDERICK WILLIAM MARVEL, PH.B., *Professor of Physical Training*

HENRY GARFIELD CLARK, PH.B., *Instructor in Physical Training*

LUCIEN JOSEPH GAY, *Assistant in the Gymnasium*

CHARLES HENRY HUGGINS, *Assistant in the Gymnasium*

GEORGE FRANKLIN HERRICK, *Assistant in the Gymnasium*

From Thanksgiving to the Spring Recess, all first and second year students are required to attend gymnasium exercises three times a week as follows:

FRESHMEN. *1st div., Tu., Fri., Sat., at 10.20; 2d div., Mon., Tu., Th., at 4.20.*

SOPHOMORES. *1st div., Mon., Wed., Th., at 10.20; 2d div., Tu., Th., Fri., at 3.20.*

A voluntary class for Juniors and Seniors will be held on *Mon., Tu., Fri., at 5.10.* Classes in heavy gymnastics, under the direction of a special instructor, are held six afternoons a week. Classes in wrestling, under the direction of a special instructor, are held six afternoons a week. Instruction in swimming, under the direction of a special instructor, is given by appointment.

TABLE OF ELECTIVE COURSES, 1914-15†

FIRST SEMESTER

<i>Art</i>	<i>Biology</i>	<i>Education</i>
1 So. Jr. Sr. Gr.	41 Gr.	2 Jr. Sr. Gr.
3 Jr. Sr. Gr.	<i>Botany</i>	3 Jr. Sr. Gr.
5 Jr. Sr. Gr.	1 Fr. So. Jr. Sr.	5 Gr. Sr.
7 Gr.	3 So. Jr. Sr. Gr.	7 Gr. Sr.
15 Fr. So. Jr. Sr.	5 So. Jr. Sr.	9 Gr. Sr.
17 So. Jr. Sr.	7 Gr. Sr. Jr.	11 Gr.
<i>Astronomy</i>	9 Fr. So. Jr. Sr.	13 Gr. Sr.
1 So. Jr. Sr.	13 Jr. Sr. Gr.	15 Gr. Sr.
5 Jr. Sr. Gr.	<i>Chemistry</i>	<i>Electrical Engineering</i>
<i>Biblical Literature</i>	1 Fr. So. Jr. Sr.	1 So. Jr. Sr.
1 Jr. Sr. Gr.	3 So. Jr. Sr.	3 So. Jr. Sr.
3 Sr. Gr.	5 Jr. Sr. Gr.	7 So. Jr. Sr.
5 Gr. Sr.	7 Jr. Sr. Gr.	9 Jr. Sr.
7 Gr.	17 Gr.	<i>English</i>
8 Sr. Gr.	21 Jr. Sr. Gr.	3 So. Jr.
9 Sr. Gr.	23 Jr. Sr. Gr.	7 So. Jr. Sr.
13 Jr. Sr. Gr.	25 Gr.	9 Jr. Sr.
15 Jr. Sr. Gr.	27 Sr. Gr.	11 So. Jr.
19 So. Jr. Sr. Gr.	29 Sr. Gr.	13 Jr. Sr.
21 Gr. Sr. Jr.	<i>Civil Engineering</i>	15 Jr. Sr. Gr.
23 Gr.	1 a, 1 b So. Jr. Sr.	17 Jr. Sr. Gr.
<i>Biology</i>	7 Jr. Sr.	21 Jr. Sr. Gr.
1 Fr. So. Jr. Sr.	9 Jr. Sr.	27 Jr. Sr.
3 So. Jr. Sr.	13 Jr. Sr.	29 Jr. Sr.
5 Jr. Sr.	15 Sr.	33 Jr. Sr.
7 Jr. Sr.	19 Sr.	35 Jr. Sr.
9 Jr. Sr. Gr.	<i>Economics</i>	43 Gr. Sr.
11 So. Jr. Sr.	1 So. Jr. Sr.	<i>French</i>
13 Jr. Sr.	5 Jr. Sr. Gr.	1 Fr. So. Jr. Sr.
15 Fr. So. Jr. Sr.	7 Jr. Sr. Gr.	3 Fr. So. Jr. Sr.
17 Jr. Sr. Gr.	11 Jr. Sr.	5 Fr. So. Jr. Sr.
31 Gr.	13 Jr. Sr.	7 Fr. So. Jr. Sr.
33 Gr.	15 Jr. Sr.	11 So. Jr. Sr.
35 Gr.	21 Jr. Sr. Gr.	23 So. Jr. Sr.
37 Gr.	23 Sr. Gr.	<i>Geology</i>
39 Gr.		1 Fr. So. Jr. Sr.

†Fr., So., Jr., Sr., Gr., indicate that the courses after which these abbreviations stand are open to Freshmen, Sophomores, Juniors, Seniors, or Graduates, respectively.

Geology

5 Fr. So. Jr. Sr.
7 So. Jr. Sr.
11 Gr. Sr.
15 Jr. Sr.

German

1 Fr. So. Jr. Sr.
3 Fr. So. Jr. Sr.
5 Fr. So. Jr. Sr.
7 Fr. So. Jr. Sr.
9 Fr. So. Jr. Sr.
11 So. Jr. Sr.
15 So. Jr. Sr.
23 So. Jr. Sr.
31 Gr. Sr.
41 Gr.

Greek

A Fr. So. Jr. Sr.
1 Fr. So. Jr. Sr.
3 So.
7 Jr. Sr.
13 So. Jr. Sr.
17 Gr. Sr.

History

3 Jr. Sr. Gr.
5 Jr. Sr. Gr.
7 Jr. Sr. Gr.
11 Gr. Sr. Jr.
13 So. Jr. Sr. Gr.
15 Jr. Sr. Gr.
17 Gr. Sr.

Italian

17 So. Jr. Sr.
19 Jr. Sr. Gr.

Latin

1 Fr. So. Jr. Sr.
3 So. Jr. Sr.
7 Jr. Sr.
9 Jr. Sr. Gr.

Latin

13 So. Jr. Sr.
16 B Jr. Sr.
17 Gr.

Mathematics

2 Fr. So. Jr. Sr.
5 Fr. So. Jr. Sr.
7 So. Jr. Sr.
9 Jr. Sr.
13 Fr. So. Jr. Sr.
17 Fr. So. Jr. Sr.
19 So. Jr. Sr.
23 Gr. Sr.
26 Gr. Sr.
27 Gr. Sr.
39 Gr. Sr.
43 So. Jr. Sr.

Mechanical Drawing

3 So. Jr. Sr.
7 Fr. So. Jr. Sr.

Mechanical Engineering

6 So. Jr. Sr.
7 So. Jr. Sr.
9 Jr. Sr.
11 Sr.
15 So. Jr. Sr.
17 So. Jr. Sr.
19 Jr. Sr.
21 Jr. Sr.

Mechanics

1 Jr. Sr.
3 Sr.
5 Sr. Gr.

Music

1 So. Jr. Sr.

Philology

4 Gr. Sr.

Philosophy

1 So. Jr.

Philosophy

3 So. Jr. Sr.
5 Jr. Sr. Gr.
7 Jr. Sr. Gr.
9 Jr. Sr. Gr.
11 Jr. Sr. Gr.
13 Jr. Sr. Gr.
17 Jr. Sr. Gr.
19 Sr. Gr.
23 Jr. Sr. Gr.
25 Sr. Gr.

Physics

1 Fr. So. Jr. Sr.
3 So. Jr. Sr.
5 So. Jr. Sr.
7 Sr. Gr.
9 Gr. Sr.
11 Jr. Sr. Gr.
13 Sr. Gr.
15 Jr. Sr. Gr.
21 Jr. Sr.
23 Jr. Sr. Gr.
25 Jr. Sr. Gr.

Political Science

3 Jr. Sr.
5 Jr. Sr. Gr.
7 Sr. Gr.
13 Gr. Sr.

Sanskrit

5 Jr. Sr. Gr.

Social Science

3 Jr. Sr. Gr.
5 Jr. Sr. Gr.
7 Jr. Sr. Gr.
11 Sr. Gr.
13 Gr. Sr. Jr.

Spanish

15 So. Jr. Sr.

SECOND SEMESTER

Art

2 So. Jr. Sr. Gr.
 4 So. Jr. Sr. Gr.
 6 Jr. Sr. Gr.
 8 Gr.
 16 Fr. So. Jr. Sr.
 18 So. Jr. Sr.

Astronomy

2 So. Jr. Sr.

Biblical Literature

2 Jr. Sr. Gr.
 4 Sr. Gr.
 6 Gr. Sr.
 7 Gr.
 8 Sr. Gr.
 10 Sr. Gr.
 14 Jr. Sr. Gr.
 16 Jr. Sr. Gr.
 20 So. Jr. Sr. Gr.
 22 Jr. Sr. Gr.
 23 Gr.
 30 Jr. Sr. Gr.

Biology

2 Fr. So. Jr. Sr.
 4 So. Jr. Sr.
 6 Jr. Sr.
 8 Jr. Sr.
 10 Jr. Sr. Gr.
 12 So. Jr. Sr.
 14 Jr. Sr.
 16 So. Jr. Sr.
 18 Jr. Sr. Gr.
 20 Fr. So. Jr. Sr.
 22 Jr. Sr.
 32 Gr.
 34 Gr.
 36 Gr.
 38 Gr.
 40 Gr.
 42 Gr.

Botany

2 Fr. So. Jr. Sr.

Botany

4 So. Jr. Sr. Gr.
 6 So. Jr. Sr. Gr.
 8 Gr. Sr. Jr.
 10 Fr. So. Jr. Gr.
 14 Jr. Sr. Gr.

Chemistry

2 Fr. So. Jr. Sr.
 4 So. Jr. Sr.
 6 Jr. Sr. Gr.
 8 Jr. Sr. Gr.
 10 Sr. Gr.
 12 Sr. Gr.
 18 Gr.
 22 Jr. Sr. Gr.
 24 Jr. Sr. Gr.
 26 Gr.
 28 Sr. Gr.
 30 Sr. Gr.

Civil Engineering

2a, 2b So. Jr. Sr.
 4 So. Jr. Sr.
 6 Jr. Sr.
 8 Jr. Sr.
 10 Jr. Sr.
 12 So. Jr. Sr.
 20 Sr.
 22 Sr.
 24 Sr.
 28 Jr. Sr.
 30 Sr.
 32 Sr.
 34 Sr.

Economics

1 So. Jr. Sr.
 6 Jr. Sr. Gr.
 12 Jr. Sr.
 14 Jr. Sr.
 16 Jr. Sr.
 22 Jr. Sr. Gr.
 24 Sr. Gr.

Education

1 Jr. Sr. Gr.
 4 Jr. Sr. Gr.
 6 Gr. Sr.
 8 Gr. Sr.
 10 Gr. Sr.
 12 Gr.
 14 Gr. Sr.
 16 Gr. Sr.

Electrical Engineering

2 So. Jr. Sr.
 8 So. Jr. Sr.
 10 Jr. Sr.
 14 Sr.
 16 Sr.
 18 Jr. Sr.

English

4 So. Jr.
 8 So. Jr. Sr.
 12 So. Jr.
 14 Jr. Sr.
 16 Jr. Sr. Gr.
 18 Jr. Sr. Gr.
 22 Jr. Sr. Gr.
 28 Jr. Sr.
 30 Jr. Sr.
 34 Jr. Sr.
 36 Jr. Sr.
 38 Jr. Sr.
 44 Gr. Sr.

French

2 Fr. So. Jr. Sr.
 4 Fr. So. Jr. Sr.
 6 Fr. So. Jr. Sr.
 8 Fr. So. Jr. Sr.
 12 So. Jr. Sr.
 24 So. Jr. Sr.

Geology

2 Fr. So. Jr. Sr.
 6 Fr. So. Jr. Sr.
 12 Gr. Sr.
 14 Jr. Sr.

German

2 Fr. So. Jr. Sr.
 4 Fr. So. Jr. Sr.
 6 Fr. So. Jr. Sr.
 8 Fr. So. Jr. Sr.
 10 Fr. So. Jr. Sr.
 12 So. Jr. Sr.
 16 So. Jr. Sr.
 24 So. Jr. Sr.
 32 Gr. Sr.
 42 Gr.

Greek

B Fr. So. Jr. Sr.
 2 Fr. So. Jr. Sr.
 4 So.
 8 Jr. Sr.
 12 So. Jr. Sr.
 14 So. Jr. Sr.
 15 B Jr. Sr.
 18 Gr. Sr.

History

4 Jr. Sr. Gr.
 6 Jr. Sr. Gr.
 8 Jr. Sr. Gr.
 12 Gr. Sr. Jr.
 14 So. Jr. Sr. Gr.
 16 Jr. Sr. Gr.
 18 Gr. Sr.

Italian

18 So. Jr. Sr.
 20 Jr. Sr. Gr.

Latin

2 Fr. So. Jr. Sr.
 4 So. Jr. Sr.
 8 Jr. Sr.
 10 Jr. Sr. Gr.
 14 So. Jr. Sr.
 18 Gr.

Mathematics

1 Fr. So. Jr. Sr.
 3 Fr. So. Jr. Sr.
 6 Fr. So. Jr. Sr.
 8 So. Jr. Sr.
 16 Fr. So. Jr. Sr.
 18 Fr. So. Jr. Sr.
 20 So. Jr. Sr.
 24 Gr. Sr.
 26 Gr. Sr.
 28 Gr. Sr.
 40 Gr. Sr.
 44 So. Jr. Sr.

Mechanical Drawing

4 So. Jr. Sr.
 8 Fr. So. Jr. Sr.

Mechanical Engineering

6 So. Jr. Sr.
 7 So. Jr. Sr.
 8 So. Jr. Sr.
 10 Jr. Sr.
 12 Sr.

16 So. Jr. Sr.
 18 So. Jr. Sr.
 20 Jr. Sr.

Mechanics

2 Jr. Sr.
 4 Sr.
 6 Sr. Gr.

Music

2 So. Jr. Sr.

Philology

6 Gr. Sr.

Philosophy

2 So. Jr.
 4 So. Jr. Sr.
 6 Jr. Sr. Gr.
 8 Jr. Sr. Gr.

Philosophy

10 So. Jr. Sr.
 12 Jr. Sr. Gr.
 14 Jr. Sr. Gr.
 18 Jr. Sr. Gr.
 20 Sr. Gr.
 24 Jr. Sr. Gr.
 26 Sr. Gr.
 30 Jr. Sr. Gr.

Physics

2 Fr. So. Jr. Sr.
 4 So. Jr. Sr.
 6 So. Jr. Sr.
 8 Sr. Gr.
 10 Sr. Gr.
 12 Jr. Sr. Gr.
 14 Sr. Gr.
 16 Jr. Sr. Gr.
 22 Jr. Sr.
 24 Jr. Sr. Gr.
 26 Jr. Sr. Gr.

Political Science

4 Jr. Sr.
 6 Jr. Sr. Gr.
 8 Sr. Gr.
 14 Gr. Sr.

Sanskrit

6 Jr. Sr. Gr.

Social Science

4 Jr. Sr. Gr.
 8 Jr. Sr. Gr.
 12 Sr. Gr.
 14 Gr. Sr. Jr.
 16 Jr. Sr. Gr.

Spanish

16 So. Jr. Sr.

RELIGIOUS EDUCATION

C*COURSES arranged for the training of directors of Religious Education in churches and allied organizations, lay assistants of pastors, teachers of the Bible, and other leaders in religious work.*

The growing demand for trained leaders in the work of religious education has led Brown University to arrange a special two-year course of study designed to meet the needs of mature men and women who may not be able to undertake a full degree course. Such persons will be received as special students in the University, provided their previous training has fitted them to pursue the various courses outlined below. On the successful completion of the two-year course a certificate will be awarded by the University. Those who are engaged in other occupations for a portion of their time may take a part of the work each year, completing the entire course in a longer period than two years. Regular undergraduate and graduate students may elect these courses.

FIRST YEAR

Old Testament Literature and History. *Biblical Literature and History 15, 16.*

Biblical Seminary (*subject for 1914-15: Sunday School Organization and Instruction*). *Biblical Literature and History 21, 22.*

Outlines of Economics. *Economics 1.*

Principles or History of Education. *Education 1 or 2.*

History of Christianity. *History 3, 4.*

Outlines of Social or Political Science. *Social Science 1 or Political Science 1.*

Training Course for Religious Service. Special course, not counted toward a degree.

SECOND YEAR

New Testament Literature and History. *Biblical Literature and History 17, 18.*

Psychology of Education. *Education 3.*

Ethics. *Philosophy 4.*

Philosophy of Religion. *Philosophy* 9.

History of Religion. *Biblical Literature* 30, *Philosophy* 30.

Social Problems and Conditions. *Social Science* 3, 4.

Training Course for Social Service or Social Psychology and an elective. *Social Science* 13, 14, or 16.

The above course is not intended to be absolutely fixed ; substitutions may be made to meet individual needs and, in some cases, the courses prescribed will be interchanged between the two years.

The University has made definite arrangements with the pastors of the First Baptist, Central Congregational, Grace Episcopal, and Mathewson Street Methodist churches, and with the secretaries of the Providence Christian Associations, the Rhode Island Sunday School Association, and the Society for Organizing Charity for coöperation in the practical training of students in religious and social service. To meet the needs of individual students similar arrangements may be made with other leading churches and associations.

For further information, see the special pamphlet on "Courses in Religious Education."

LIBRARIES, LABORATORIES, AND MUSEUMS

LIBRARIES

THE libraries of the University contain two hundred and twenty-five thousand volumes. They comprise the UNIVERSITY LIBRARY, which occupies the John Hay Library Building; the JOHN CARTER BROWN LIBRARY, also with its own building; and the DEPARTMENT LIBRARIES, in the various seminary rooms and laboratories.

THE UNIVERSITY LIBRARY

HARRY LYMAN KOOPMAN, A.M., LITT.D., *Librarian*

THE MAIN LIBRARY is constantly increased with reference to the different courses of study, while at the same time there is kept in view the development of a library of general culture. It includes seven special libraries. The first is the Harris Collection of American Poetry, founded by Albert G. Greene, of the class of 1820, extended by C. Fiske Harris, and bequeathed to the University by the Hon. Henry B. Anthony, of the class of 1833, which numbers fifteen thousand volumes, being the largest collection in the world devoted to the subject, and is rapidly growing; a fund of \$5000 given by Samuel C. Eastman, of the class of 1857, in memory of the founder of the collection, provides for its regular increase. The second is the Rider Collection of Rhode Island History, formed by Sidney S. Rider and presented to the University by Marsden J. Perry, a collection remarkable for the extent and rarity of its manuscript and printed material bearing on the history of the state. The third is the Wheaton Collection of International Law, given by William V. Kellen, of the class of 1872, in honor of Henry Wheaton, of the class of 1802. This collection already numbers sixteen hundred volumes. The fourth is the George Earl Church Collection, the bequest of Colonel Church, consisting of thirty-five hundred volumes, many of them of great rarity, on the geography, history, and development of South America. The fifth is the Corthell Engineering Library, containing seven thousand volumes and pamphlets. This collection is particularly rich in works on river and harbor engineering. A fund of \$5000 given with the collection by the founder, Elmer L. Corthell, of the class of 1867, provides for its increase. The sixth is the Chambers Dante Collection, containing eleven hundred volumes besides many rare pamphlets, given by Henry D. Sharpe, of the class of 1894. The seventh is the private library of the late Professor Lester F. Ward, numbering one thousand volumes relating especially to sociology and paleobotany. It was given by his family.

The reading room contains the most important reference books, the books reserved by the departments for class use, and the latest numbers of the standard periodicals, American and foreign. On the floor of the stack which opens off the reading room has been placed a special collection known as the *STUDENTS' LIBRARY*, which consists of some seventeen thousand volumes selected for the use of undergraduates. To this floor all students have free access. The other floors of the stack are open regularly to graduate students, and to undergraduates by special permission. On the top floor of the building is a large exhibition room, open to the public, in which are displayed books and paintings and other objects of artistic, bibliographic, or historic interest.

The library funds amount to \$108,570.50. Of this sum ten thousand dollars constitutes the Gammell Fund for the purchase of books relating to the history of the United States; ten thousand dollars, the Olney Fund for the purchase of plants and botanical books; ten thousand dollars, the Diman Memorial Fund for the purchase of books on medieval and modern history; and ten thousand dollars, the Banigan Fund for the purchase of books on medieval and church history. The remainder includes several smaller special funds and the Library Fund proper.

The following persons are entitled to the use of the library without expense,—the members of the Corporation and Faculty; other college officers; graduates residing in the state of Rhode Island; donors to the funds of the University to the amount of five hundred dollars, residing in the state of Rhode Island; graduate and undergraduate students; and any other persons to whom the Corporation or the Library Committee may from time to time grant the privilege.

The library is open during term time from 8.30 a.m. to 10 p.m. on week days, and from 2 to 10 p.m. on Sundays; during vacations on week days, from 9 a.m. to 5 p.m.

THE JOHN CARTER BROWN LIBRARY

GEORGE PARKER WINSHIP, A.M., *Librarian*

THE JOHN CARTER BROWN LIBRARY, with the building erected for its use, was given to the University by the trustees under the provisions of the will of John Nicholas Brown, of the class of 1885. This collection, well known for many years as the most valuable private library of Americana, was begun by John Carter Brown, of the class of 1816, and after his death was enlarged by his widow and by his sons, John Nicholas and Harold Brown. It now includes more than twenty thousand volumes relating to the history of North and South America during the colonial period. The larger part of the books, many of which are of great rarity and value, were printed before the year 1800, and contain the earliest published accounts of events connected with the discovery, exploration, and colonization of the Western Hemisphere. The books may be consulted by properly qualified students or investigators upon application to

the Librarian. In the main hall of the building are exhibited rare books, engravings, and manuscripts belonging to the collection. The library is open on week days, from 9 a.m. to 5 p.m.

DEPARTMENT LIBRARIES

THE GERMANIC DEPARTMENT LIBRARY comprises over eight thousand carefully selected volumes. The nucleus was purchased in Germany by the late Professor Alonzo Williams in the name of the principal donor, the Hon. Hezekiah Conant. It has since been augmented through the yearly appropriation granted by the University, and by the generosity of Mr. Samuel Morris Conant of Pawtucket and other friends of the department, including German citizens of Providence. The library contains editions of all the important writers of German literature; a large collection of works on Germanic philology; the leading German literary and philological periodicals; many works upon German history, the history of German literature, and German law, art, paleography, and geography. It is especially rich in works of the Middle High German period, in Goethe and Schiller literature, and in literature of the nineteenth century. It possesses several hundred photographs of masterpieces of German painting and architecture, and characteristic views of German cities and landscape. There are many lantern-slides, engravings, and bronzes used to illustrate the subjects taught. The rooms, Sayles 6 and 7, are open from 9.20 a.m. to 12.30 p.m., and from 2 to 6 p.m.

THE ENGLISH DEPARTMENT LIBRARY comprises about three thousand volumes, of which more than twenty-seven hundred were from the private library of the late Hammond Lamont, Professor of Rhetoric in Brown University from 1895 to 1900. These were presented to the University in his memory, by the classes of 1899 and 1900. The collection is especially rich in works on the drama and in prose fiction of the eighteenth century. The library is contained in the rooms of the department, in the John Hay Library.

THE LIBRARIES OF THE DEPARTMENTS OF GREEK AND LATIN constitute the Albert Harkness Classical Seminary, named in honor of its founder, the late Professor Albert Harkness. It consists of fifteen hundred volumes, purchased with funds contributed by friends of the University interested in classical studies, and contains the most important collections of Greek and Roman authors, besides commentaries, reference books, and similar aids. The room, Sayles 8, is open from 9.20 a.m. to 10 p.m.

THE ROMANCE DEPARTMENT LIBRARY consists of a collection of a thousand volumes for the use of advanced students in the Romance languages. The room, Sayles 4, is open daily.

THE BIBLICAL DEPARTMENT LIBRARY consists of a reference collection of fifteen

hundred volumes, including a valuable collection of Semitic books presented by Mr. Jacob Shartenberg of Pawtucket. Through the gift of Mr. William Gammell important books for the use of advanced students have recently been added. A number of Semitic, Biblical, and general religious journals are kept on file. The room, Sayles 3, is open from 9.20 a.m. to 12 m., from 2 to 5 p.m., and from 7 to 9 p.m., except Wednesday and Saturday afternoons and Saturday evenings.

THE BIOLOGICAL DEPARTMENT LIBRARY is a collection of about two thousand two hundred volumes and fifteen hundred pamphlets, to which additions are constantly made. More than fifty current periodicals bearing upon the work of the department are regularly received. The rooms, in Rhode Island Hall, are open from 9.20 a.m. to 4 p.m.

THE EDUCATIONAL DEPARTMENT LIBRARY contains more than fifteen hundred volumes, chiefly text-books of recent publication. It occupies the seminary room of the department, in the John Hay Library, and is open to all students interested in education, and to teachers and friends of education in the city and state.

THE LIBRARY OF THE DEPARTMENT OF ECONOMICS comprises about fifteen thousand volumes and twenty thousand pamphlets, to which additions are constantly made, and receives regularly about one hundred and twenty-five periodicals and papers bearing upon the work of the department. The rooms are on the first floor of the old library building, and are open from 9 a.m. to 1 p.m. and from 2.30 to 5.30 p.m., except Saturdays, when the hours are from 9 a.m. to 1 p.m.

THE BOTANICAL DEPARTMENT LIBRARY consists of about fifteen hundred bound volumes, several thousand pamphlets, and the more important current periodicals. These books have been selected from the large number in the main library as the ones most likely to be in demand by students working in the laboratory, and by visiting botanists working in the Herbarium. When not in use at the department, or on reserve at the department or the main library, any of these books may be borrowed in the usual manner by applying at the University Library. The rooms of the department are in Maxcy Hall.

THE LIBRARY OF THE DEPARTMENT OF PHYSICS is provided with files of the *Fortschritte der Physik*, *Annalen der Physik*, *Philosophical Magazine*, *Journal de Physique*, *Radium*, *Beiblätter der Physik*, *Physical Review*, *Science Abstracts*, *Physikalische Zeitschrift*, *Nature*, and other magazines, together with a rich collection of the standard works and monographs in all departments of Physics and Electrical Engineering, and also the collected works of great authors, physical tables, etc. The room, in Wilson Hall, is open daily.

THE MATHEMATICAL DEPARTMENT LIBRARY comprises more than six hundred

bound volumes of mathematical journals and more than eleven hundred other books. Special effort has been made to have the best books in all branches of pure Mathematics. The library has complete sets of the following journals: *Acta Mathematica*; *American Journal of Mathematics*; *Analyst*; *Annaes Scientificos da Academia Polytechnica do Porto*; *Annals of Mathematics*; *Bulletin of the American Mathematical Society*; *Bulletin des Sciences Mathématiques*; *International Catalogue of Scientific Literature, A, Mathematics*; *Journal de Mathématiques pures et appliquées* (Liouville); *Journal für die reine und angewandte Mathematik* (Crelle); *Mathematical Monthly* (Runkle); *Mathematical Questions and Solutions from the Educational Times*; *Mathematische Annalen*; *Proceedings of the London Mathematical Society*; *Transactions of the American Mathematical Society*. In addition to the above, the current numbers of twenty-one other periodicals are available for students; according to the country of publication there are six German, five American, four French, two Belgian, and one each from England, Italy, India, and Switzerland. The library has also *Encyclopédie des Sciences Mathématiques*, *Répertoire Bibliographique des Sciences Mathématiques*, and a complete dictionary card catalogue of the mathematical works in all the libraries of the University. It is desired that the library shall be used freely by the students; applications should be made to the librarian, Professor H. P. Manning. The library room is Wilson 28.

THE LIBRARIES OF THE DEPARTMENTS OF CIVIL ENGINEERING, MECHANICAL ENGINEERING, MECHANICS AND MECHANICAL DRAWING are grouped together on the third floor of the Engineering Building. They form an excellent working library of about twenty-eight hundred volumes, including complete sets of many periodicals. All the important engineering periodicals are regularly received. To these should be added the resources of the Corthell Library already described.

THE LIBRARY OF THE DEPARTMENT OF GEOLOGY consists of more than twenty-five hundred volumes of general reference works in Geology and Geography, together with several hundred charts of the Coast and Geodetic, Great Lakes, and Mississippi River Commission surveys, some two thousand maps of the United States Geological Survey, foreign topographic maps, and geologic atlases. The more important current geologic, geographic, and mining periodicals are regularly received. The library is contained in Sayles Hall, Rooms I and J, and is open from 9 a.m. to 10 p.m.

OTHER DEPARTMENT LIBRARIES. There are several other special collections of books for seminary and advanced laboratory work. The most important of these belong to the departments of Astronomy, Chemistry, History, Philosophy, and Social and Political Science.

THE WOMEN'S COLLEGE LIBRARY AND READING ROOM occupy two rooms in Pembroke Hall. The library comprises more than thirty-two hundred volumes

of standard literature, chosen with special regard to the courses offered, thus forming for students of the Women's College a convenient and valuable adjunct to the University Library. An experienced librarian is in charge.

OTHER PROVIDENCE LIBRARIES

There are also at the service of the students of the University the seven collections of books named below. These comprise, with the University Library, over half a million volumes, exclusive of pamphlets and manuscripts.

THE PROVIDENCE PUBLIC LIBRARY offers to all students of Brown University, upon the same conditions as to other residents of the city, the use of its carefully chosen collection, which comprises more than one hundred and seventy-seven thousand volumes. Among its special features may be mentioned the Harris Collection on Slavery and the Civil War; the St. Bride Collection of Books on Printing; the "Standard Library" of best literature; and the Reference Department. About one thousand periodicals, serials, and annuals are currently received. In the Foreign Department there are brought together more than a dozen of the modern languages and literatures. The Educational Department, occupying two rooms, comprises several different collections, placed there in order to facilitate their use by teachers and others. The Information Desk may be consulted with respect to books relating to any of the departments of University study, and for lists of references in connection with any of the special topics under consideration. The library is situated at the corner of Washington and Greene Streets. Its principal rooms are open regularly from 9 a.m. to 9 p.m.; on Sundays, from 2 to 9 p.m.

THE LIBRARY OF THE PROVIDENCE ATHENAEUM is a collection of general literature numbering eighty-one thousand volumes. The reading room receives over two hundred papers and magazines, including New York, Boston, and Providence daily papers, and American, English, German, French, and Italian weeklies, magazines, and reviews. In bound sets of periodicals and in books on art this library is especially rich. Professors or teachers may become annual subscribers on the payment of four dollars in advance, and any student of Brown University may become a subscriber for three months on the payment of one dollar. All such subscribers have the right to take out books and use the rooms of the library in the same manner as shareholders, except that the rights of subscribers who pay less than at the regular rate of twelve dollars per annum are personal only and do not extend to the families of such subscribers. The Athenaeum is open on week days, from 9 a.m. to 9 p.m.

THE LIBRARY OF THE RHODE ISLAND HISTORICAL SOCIETY is situated on Waterman Street, next to the old University Library Building. The library of the society comprises thirty thousand bound volumes and fifty thousand unbound volumes and pamphlets. Through the courtesy of the society the collection is made accessible, free of charge, to members of the University. It offers spe-

cial facilities for thorough research not only in all subjects relating to the history of Rhode Island, but also in genealogy, biography, general American history, early American travel, and the drama. The library is open on week days, from 9 a.m. to 5 p.m.

THE ANNMARY BROWN MEMORIAL, situated on Brown Street south of the University grounds, was founded by General Rush C. Hawkins, of New York, in memory of his wife, Annmary Brown, of Providence, a granddaughter of Nicholas Brown, after whom the University was named. The building contains a collection—one of the most complete in the world—of books from the first European presses. It contains also a notable collection of paintings by old masters and modern painters. The collection of books was made for the double purpose of showing the progress of printing through the first half century of its existence, from about 1450 to 1500, and of honoring the memory of John Gutenberg, the inventor of printing with movable metal types. It includes two hundred and twenty-five books from one hundred and thirty of the two hundred and thirty-eight first presses set up in the cities, villages, and monasteries in Europe before the year 1501, and is fairly representative of countries. Among the books are many rare and interesting volumes. Incidentally there came into the collection many notable volumes adorned with woodcuts which show the earliest use of the woodcutter's art for book illustration. In connection with the Memorial, General Hawkins has provided for two lectures on "The function of the arts in civilization," to be given annually in Sayles Hall, on March 9 and October 28, the birthdays of his wife and her sister, Carrie Mathilde Brown Bajnotti.

THE LIBRARY OF THE RHODE ISLAND MEDICAL SOCIETY occupies a new building on Francis Street, opposite the State House. It comprises about twenty-five thousand volumes upon medical science, including anatomy, physiology, public hygiene, and other subjects the study of which is pursued in the University. There is also a good file of current medical periodicals. Upon application students can, without cost, enjoy the privileges here offered. The library is open on week days, from 9 a.m. to 5.30 p.m., except on Saturdays, when it closes at 12 m.

THE STATE LAW LIBRARY is a collection of forty thousand volumes. It is accessible to all students, and for certain lines of University study is invaluable. University students are requested to introduce themselves at the desk. The rooms of the library are in the Providence County Court House, at the corner of Benefit and College Streets, and are open on week days, from 9 a.m. to 5 p.m.; except on Saturdays, when they close at 3 p.m.

THE STATE LIBRARY, located in the State House, contains a large collection of official documents of the United States and of the several states, a complete collection of the United States Patent Office Specifications, and general works

pertaining to history and political science. The Legislative Reference Bureau conducted by the State Library directs the work of students who are investigating topics in comparative legislation. The library is open to the public on week days, from 9 a.m. to 4 p.m.; except on Saturdays, when it closes at 12 m.

LABORATORIES

THE LADD ASTRONOMICAL OBSERVATORY is equipped with a Saegmuller-Brashear equatorial of twelve inches aperture, which is supplied with a filar micrometer, two spectroscopes, a photographic plate carrier, and other attachments; two equatorials, tripod mounted, each of four inches aperture; four transit instruments, two of which can be used as zenith telescopes; a chronograph; three astronomical clocks; several sextants and chronometers; recording meteorological apparatus; and various minor instruments. The equipment is available for illustrating the general courses in astronomy and for practical use in the applied courses.

The Observatory furnishes constant time-signals to the Fire Department of the City of Providence, and to the Rhode Island Electric Protective Company, which distributes them to its patrons. Routine observations for determining clock errors and night cloudiness are made throughout the year. Regular observations of sunspots and other solar phenomena are made, and special observations of various kinds as opportunity offers.

THE PHYSICAL LABORATORY is in Wilson Hall, which was specially designed and constructed for the Department of Physics. Twelve laboratory rooms are available for experimental study. Brick piers support the instruments requiring great steadiness, and the magnetic rooms are as free as possible from the influence of iron and from other disturbances. Several rooms on the ground floor are devoted to electrical engineering. The Laboratory is supplied with apparatus both experimental and demonstrative, and frequent additions are made. The department has a large collection of historical and other photographs, lantern-slides, and cage models illustrating the propositions in pure and applied physics.

THE CHEMICAL LABORATORIES are in Rogers Hall, which was erected expressly for the Department of Chemistry. The inorganic laboratory is supplied with tables and lockers furnishing accommodations for about two hundred and fifty students working by detachments. The organic laboratory is fitted with tables for about fifty students. Each table has arrangements for gas, high-pressure water-supply, etc.

THE GEOLOGICAL LABORATORIES are in Sayles Hall. They are equipped with the requisite apparatus and with a detailed series of photographs, maps, models, and illustrative specimens for work in general geology, geography, mineral-

ogy, and petrography. The region in which the University is situated provides unusual opportunities in a small compass for the study of both simple and complex problems in field research in petrographic, metamorphic, paleontologic, and stratigraphic geology.

THE BIOLOGICAL LABORATORIES are in Rhode Island Hall. They include laboratories for physiology, bacteriology and histology, neurology and embryology, and a large laboratory for elementary anatomy and comparative anatomy. The collection of zoölogical and anatomical material is available for the work of the department. Abundant living material is readily obtained, since the laboratory is situated near the salt water.

THE BOTANICAL LABORATORIES are in Maxcy Hall. There is also a greenhouse for experimental work adjoining the building. The larger laboratory is used for the elementary courses, and the smaller for advanced work. They are equipped with the necessary simple and compound microscopes, paraffin baths, microtomes, freezing apparatus, incubator, sterilizer, etc., and a considerable amount of plant material preserved in liquids, as well as dried. The Herbarium, in an adjoining room, is accessible to advanced students in forestry and medicinal and systematic botany.

THE PSYCHOLOGICAL LABORATORY occupies rooms in Wilson Hall. It possesses apparatus for the study of sensations, the determination of discriminative sensibility, the measurement of the duration of mental processes, the detection of physiological accompaniments of changes in consciousness, the study of temperament, and research in other fields. This equipment is adapted for the illustration and demonstration of the main results of experimental work in psychology, and for carrying on original research.

THE MECHANICAL ENGINEERING LABORATORIES and drafting rooms are situated in the Engineering Building. The laboratories are equipped with apparatus for the work of the courses in strength of materials, steam, gas, and hydraulic engineering, and metallography. They contain a 400,000-pound and a 50,000-pound Riehle testing machine; a machine for testing full-sized timber and steel beams; a 50,000-inch-pound Olsen torsion testing machine; a machine for testing by repeated stresses; two Riehle cement testing machines; a cross-compound condensing Corliss engine; steam turbine; various smaller engines, gas and gasoline engines, steam pumps, air compressors, injectors, and the necessary apparatus for testing them; a rotary fire pump, pulsometer, ram, Pelton wheel, turbine, Venturi meters, weirs, and measuring tanks; apparatus for investigating the nature and structure of alloys; a photographic dark room; and the usual small apparatus necessary to the work of such laboratories.

The Mechanical Engineering Shops, in Rogers Hall, are equipped with hand and machine tools for purposes of instruction in wood-working and metal-working.

THE MECHANICAL DRAWING ROOMS, accommodating two hundred and fifty students, are on the third floor of the Engineering Building. A collection of about two hundred and twenty-five models in wood and metal is extensively used in the courses. There is a dark room, with apparatus for preparing blue-prints.

THE CIVIL ENGINEERING DRAFTING ROOMS, instrument room, and offices are located on the second floor of the Engineering Building. The drafting rooms have desks for about one hundred students. The instrument room contains a complete equipment of apparatus necessary for the field work in surveying and railroad engineering. For the work in structural engineering the department has a collection of over four hundred photographs, five hundred large blue-prints of bridges, buildings, roof trusses, etc., and a set of steel structural shapes and iron beam-hangers. The department has also a collection of the various rocks used as road material, a Bausch and Lomb petrographic microscope, a set of the rail sections of the American Society of Civil Engineers, and models of railway appliances and harbor improvements.

MUSEUMS

THE MUSEUMS OF ZOÖLOGY AND ANTHROPOLOGY are in Rhode Island Hall. They are not mere exhibition rooms, but places for work. The zoölogical and anatomical collections of the University form the Jenks Zoölogical Museum. The Museum of Anthropology contains a collection of articles of dress and implements from foreign countries, and a valuable collection of stone implements of aboriginal American races, including those of Rhode Island. The museums are open to the public daily.

THE HERBARIUM is in Maxcy Hall. The general collection contains upwards of seventy-five thousand specimens from all parts of the world, but mainly from America. The cryptogams occupy ten cases and the seed-plants thirty. All of these are mounted and systematically arranged according to Engler and Prantl's *Natürliche Pflanzenfamilien*. There are also several cases of unmounted specimens and duplicates. The genus *Carex* is particularly well represented, as it was the object of much special study by Colonel S. T. Olney, the founder of the Herbarium.

THE MUSEUM OF FINE ARTS occupies the first floor of Manning Hall. It contains plaster casts of unusual excellence, chiefly from works of classical sculpture, which are of great value in illustrating ancient history, biography, and art. It also contains some original specimens of Etruscan, Graeco-Roman, and Oriental sculpture; and the George W. Harris bequest of pictures by old masters of the Italian and North European schools, and of works in marble,

china, glass, bronze, and silver. Certain works in silver and china, owned by the University through the George W. Harris bequest, are temporarily loaned to the Rhode Island School of Design, and are on exhibition at the museum of that school.

The University possesses a large collection of valuable portraits, which are hung in Sayles Memorial Hall. It now includes portraits of the University's principal benefactors, of many of its former officers, and of other distinguished persons, Americans and foreigners. The history of Rhode Island is especially well represented.

A large painting by Domenico Tintoretto, representing Moses Smiting the Rock, the gift of Mrs. Charles Bradley and the late George L. Bradley, Esq., is in the Museum of Fine Arts. Some paintings, selected from the collections of the University, are exhibited in the gallery on the top floor of the John Hay Library.

A series of fourteen oil paintings illustrating early American history, by Frank O. Small, presented to the Department of History by Samuel M. Conant, is hung in the Faculty Room in the Administration Building.

All the collections are open to the public.

EXTENSION COURSES

THE University offers during each year two series of extension courses, given at the University and open to all who desire to enter. Each course consists of ten lectures or other exercises, and, while not identical with the corresponding course offered to regular students, is equivalent in the general character and amount of the work required. Persons entering these courses may at their option attend merely as listeners, or may do the prescribed work and take the examination given at the end of the course.

On the completion of each course, certificates are issued to those who have done the work assigned and passed the examination. Each extension course of ten lectures or other exercises is regarded by the University as the equivalent of a regular one-hour course for one semester, and is accepted by the University in fulfilment of the requirements for the degree of A.B. and Ph.B. (but not for the degree of A.M.), subject to such regulations respecting entrance requirements and prescribed courses as govern regularly enrolled candidates for the respective degrees. Regularly enrolled undergraduates, however, are not given credit for extension courses. Those who wish a certificate or university credit should announce their intention at the time of registration; all such announcements must be made not later than the third lecture of the course.

Applications for admission to extension courses should be sent to Professor Walter Ballou Jacobs, Director of University Extension, John Hay Library, Brown University. The application should give the full name and the address of the applicant, the course or courses in which registration is desired, and, if the applicant is a teacher, the present educational position. On receipt of the fee, a card of admission is issued which must be shown at the lectures in each course. Classes are not formed in any course for which fewer than twenty-five apply. The fee for each course is three dollars and a half, payable in advance. Students desiring a certificate or university credit pay an additional fee of one dollar and a half; this fee is due on registration and must be paid not later than the third lecture of the course. Checks should be made payable to Brown University. They should be sent with the application if possible; if not, payment may be made at the Registrar's office, Administration Building.

The courses offered during the first semester of the year 1913-14 were:

The Earth, Its Forces and Features. Professor BROWN.

Social Progress in Europe in the Nineteenth Century. Professor COLLIER.

Lyric Poetry in English. Professor CROSBY.

Great Epochs in Political Development. Professor DEALEY.

Molière's Comedies. Professor LANGDON.

Beethoven and Wagner. Professor MACDOUGALL.

Electrical Engineering. Professor WATSON.

French Customs and Manners—French conversation. M. HENRI F. MICOLEAU.

World Politics in Relation to Commerce and Finance. Mr. CHARLES C. BATCH-ELDER.

Vocational Guidance. Mr. MEYER BLOOMFIELD.

The courses offered during the second semester of the year 1913-14 were:

Weather and Climate. Professor BROWN.

Construction in Steel and Concrete. Professor CROSS.

Lyric Poetry—illustrative readings. Professor CROSBY.

German Conversation and Reading. Professor CROWELL.

Great Epochs in Social Development. Professor DEALEY.

Civilization of the Roman Empire. Professor GREENE.

Elementary Italian. Professor LANGDON.

Problems of Labor and Industry. Professor MOTLEY.

French Customs and Manners—French conversation. M. HENRI F. MICOLEAU.

In Fall River:

Some Aspects of Colonial Society. Professor MACDONALD.

ARRANGEMENTS WITH OTHER INSTITUTIONS

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THE RHODE ISLAND SCHOOL OF DESIGN

THE Rhode Island School of Design is an institution of large and increasing importance for the education of artisans and artists in the principles and processes of art, and for the general advancement of education in art by the exhibition of works of art and art studies, and by lectures. Its school buildings and museum are near the University grounds, and its collections are open daily to the public. Through its exhibitions there is opened to students an important means of culture.

The Corporation and Faculty of Brown University have agreed with the authorities of the Rhode Island School of Design upon a plan of coöperation in accordance with which certain courses at this School are open to students of the University and are counted towards a University degree. A description of these courses and a statement of the conditions under which they may be elected will be found in the list of studies given under the Department of Art, on pages 71, 72. Students from the Rhode Island School of Design are admitted to any classes in Brown University for which they are found to be prepared.

THE AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS

In 1902 a number of the friends of the University, in recognition of the sixtieth anniversary of the graduation of the late Professor Harkness, one of the founders of the American School of Classical Studies at Athens, united in contributing to the School the sum of \$5555, to establish a fund to be known as "The Albert Harkness Fund for the Benefit of Brown University." By the establishment of this fund, the privilege of free tuition in the School is secured for all adequately prepared graduates of the University. Any who desire detailed information regarding the School may obtain it by applying to Professor Poland, Professor Manatt, or Professor Allinson, members of the Managing Committee of the School.

THE NEWTON THEOLOGICAL INSTITUTION

The Newton Theological Institution has entered into an agreement with Brown University whereby certain work done in the University, for which a mark of C has been awarded, or upon which the student passes an examination satisfactory to the Faculty of the Newton Theological Institution, will be credited toward graduation in the Theological course as follows: Biblical Literature and History 1, 2, 3, 4 (132 hours); 11, 12, 13, 14 (108 hours); 15, 16,

17, 18 (112 hours); English 7 (33 hours), — in all, 385 hours. The total number of prescribed hours in the Theological course at the Newton Theological Institution is 1485.

THE TRAINING OF TEACHERS

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ARRANGEMENTS WITH THE BOARD OF EDUCATION OF THE STATE OF RHODE ISLAND

THE State of Rhode Island under act of the Legislature has entered into coöperation with Brown University for the professional instruction of college graduates who desire to become teachers in high schools, principals of high schools or elementary schools, or superintendents, and of those who already hold such positions. For this purpose the state appropriates annually \$5000. A part of this sum is employed in maintaining graduate courses in education. Part is expended in maintaining scholarships covering full tuition for a year of graduate work for the degree of Master of Arts. Holders of these scholarships must make Education their major subject, and their courses must be approved by the Department of Education. Graduate scholarships for professional studies are also granted for less than a full year of work. Appointment to these scholarships is made by the State Board of Education. Candidates must conform to the requirements for graduate students regularly fixed by the University.

ARRANGEMENTS WITH THE CITY OF PROVIDENCE

The School Committee of the City of Providence, by special agreement, appoints a number of student-teachers in the Providence High Schools. Appointments are made from Graduates of Brown University or of other institutions of equal rank, who have pursued undergraduate courses in Education. These student-teachers are of two types. Those of the first type—of whom there are at least four, two of each sex—are occupied in the schools each day for somewhat more than half the usual school session. They receive a salary of five hundred dollars a year from the city. Those of the second type are allowed to teach and observe about five hours a week. They have considerably more freedom in the choice of subjects and of hours than those of the first type; they receive no remuneration from the city. An unusual opportunity is thus afforded students to gain at the same time a knowledge of the theory of education and experience in the art of teaching. In making appointments to places as regular teachers of the lowest grade in the Providence High Schools, preference is given to those who have successfully completed this course of training as student-teachers. In this respect student-teachers of the second type have the same

status before the Committee as those of the first type. The practice-teaching in the Providence High Schools is done under the following Supervising Teachers :

Charles E. Dennis, Ph.D., *Latin*
Harriet P. Fuller, A.M., *Latin*
M. Catherine Mahy, A.M., *English*
J. Madison Gathany, A.M., *History and Civics*
Howard D. Day, A.M., *Physics*
Agnes F. Williams, A.M., *French*
Clarence H. Manchester, A.M., *English*
Edith H. Williston, A.M., *German*
Richard O. Dummer, A.M., *Physics and Chemistry*
Alden E. Hodgkins, B.S., *Mathematics*

In a similar way a number of students are appointed to places in the Providence Grammar Schools. They receive a salary of three hundred and fifty dollars a year from the city. A limited number of Seniors and Graduates who are pursuing courses in Education are allowed to observe and teach in the Grammar Schools of the city in a way similar to that provided for student-teachers of the second type in the High Schools.

STUDENT-TEACHERS IN THE CITY OF FALL RIVER

Four student-teachers have been appointed by the School Board of the City of Fall River to places in the Fall River High Schools. The work of these student-teachers is similar in kind and conditions to that of the student-teachers of the first type described under Arrangements with the City of Providence.

The practice-teaching in the Fall River High Schools is done under the following Supervising Teachers :

Ernest Cobb, Ph.B., *English*
Alice B. Damon, A.B., *Biology*
Blanche A. Verder, Sc.B., *History*
Edna Thurston Wilson, A.B., *German*

STUDENT-TEACHERS AT THE MORRIS HEIGHTS SCHOOL

Student-teachers of the first type are appointed at the Morris Heights School. Such student-teachers are under the supervision of the principal, John Shaw French, Ph.D.

PROVISIONS FOR THE PERSONAL WELFARE OF THE STUDENTS

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PHYSICAL TRAINING

FOR the physical training of the students excellent opportunities are offered by the Lyman Gymnasium. It is thoroughly equipped with baths, dressing-rooms, bowling alleys, and all kinds of apparatus usually found in modern gymnasiums. Connected with the gymnasium is the Colgate Hoyt Swimming Pool, seventy-five feet in length by twenty-five feet in width, with a capacity of seventy-five thousand gallons. All the gymnasium work is under the supervision of the Professor of Physical Training, who makes a thorough examination and measurement of each student on entrance, and at other times by request. Special cases are referred to Dr. P. P. Chase, the University Physician. Such exercises are prescribed as may be necessary to give health, strength, and symmetrical development. No student is allowed to attempt any feat which is likely to result in injury. From the close of the Thanksgiving recess to the beginning of the spring recess, all first and second year students are required to attend gymnasium exercises three times a week. For other members of the University voluntary classes are provided. The class work consists of setting-up exercises, developing exercises, calisthenics, the use of clubs, dumb-bells, wands, and single sticks, and general athletics. Instruction is also given in swimming, a special effort being made to teach all students to swim. In all the work, the aim is to develop health, strength, and vitality.

All branches of athletics are under the management of the Brown University Athletic Association, and are controlled by a board of undergraduates. The Faculty Committee on Student Organizations has general oversight of the deportment and scholarship of the members of the various teams. Lincoln Field adjoins the gymnasium, and is a convenient place of exercise for the class teams and the students in general. Andrews Field, which is a mile and a half from the University, offers the usual opportunities for all the University teams. The Marston Field House, the gift of Mr. Edgar L. Marston, is fitted with dressing-rooms, lockers, baths, and other accommodations.

MEDICAL CARE

Any student suffering from illness is expected at once to visit or summon the University Physician, Dr. Peter P. Chase. [192 Waterman Street. Office hours, 2 to 4 p.m. ; 7 to 8 p.m. Telephone Angell 2487-J.] When called to see students at their rooms, the duty of the University Physician is to make one call for diagnosis and prescription at the expense of the University. For continued

attendance, students make their own arrangements with Dr. Chase or some other physician. All office calls are at the expense of students.

The University owns two free beds in the Rhode Island Hospital, to the occupancy of which the President of the University has the right of appointment. The first of these, THE CHARLES SMITH BRADLEY FREE BED, was established in 1872 by the payment to the hospital of four thousand dollars by the late Judge Bradley, a member of the Board of Fellows, thereby endowing a free bed "under the control of the President of Brown University for the time being, for the benefit of any officer or student of that institution who may have occasion for it." The second, THE GEORGE IDE CHACE FREE BED, was established by the payment to the hospital of four thousand dollars by the late Professor George Ide Chace; this foundation gives to the President of the University "the right to nominate and send to said hospital a patient, being a proper subject for treatment in said hospital according to the rules of the institution."

A patient sent to the hospital in accordance with the above arrangements is entitled to occupy a bed in one of the wards, and to receive the usual care, medical, surgical, and other attendance, and medicines and board, free of charge; but if he occupies a separate room and is under the care of an outside physician, he will be expected to pay the hospital from sixteen to twenty-three dollars per week.

STUDENT ADVISERS

As early as possible in the year the members of the Freshman class are divided into small groups, for each of which some member of the Faculty acts as special counselor. In making the assignments, the expressed preference of either student or adviser is followed whenever practicable. One meeting is usually definitely appointed; but the working of the system is entirely informal, and while it is desired that it shall lead to closer personal relations, it fulfils its chief aim if it permits each student to feel that in any emergency of his college life, great or small, he is free to claim the counsel of a mature and interested adviser.

THE BROWN UNION

The chief aim of the Brown Union is to encourage a vigorous and healthy social life in the university, to bring undergraduates, Faculty, and Alumni into closer relation than would otherwise be possible, and to unite under one roof, with competent direction, the various activities of the students. Membership is open to students, Alumni, and Faculty, and includes almost all of the undergraduates. The Board of Management consists of the President of the Union, who must be a member of the Senior class, and four members appointed by the Corporation. The Union occupies Rockefeller Hall, which is also the headquarters of the Brown Christian Association. The building affords attractive offices for the Athletic Board, Varsity teams, the musical and dramatic clubs,

the *Brunonian*, the *Daily Herald*, and the College Bookstore, rooms of various sizes for student meetings, and the usual conveniences of a social club, including large and handsomely furnished rooms for reading and lounging, an auditorium with well-equipped stage, a dining-hall and lunch-room, billiard room and barber shop. In coöperation with the Christian Association, the Brown Union holds a series of College Nights on Tuesday evenings throughout the year. The programs include readings, musical or dramatic entertainments, and addresses of various sorts. The Secretary and Treasurer, Elliot T. Bugbee, '14, gives his whole time to the affairs of the Union.

THE BROWN CHRISTIAN ASSOCIATION

The purpose of this Association is to unite all men who cherish Christian ideals in the service of their fellow men. It welcomes to membership all men who are connected with the University. Among its activities are frequent meetings for the discussion of religious, philanthropic, and educational problems and for devotional purposes; the arrangement of conferences with Vesper preachers; coöperation with the churches in religious and social work. It maintains an Information Bureau at the opening of the college year and an Employment Bureau (see page 185) throughout the year, which seeks to secure remunerative work for students who are dependent upon their own resources. The General Secretary, Frederick Davis, '14, gives his full time to the work of the Association. His office is Room K, Rockefeller Hall. Other rooms in the same building are specially designated for the various activities of the Association.

RELIGIOUS SERVICES

A chapel service is held in Sayles Hall every week day at 9 a.m. The President usually conducts the exercises. Attendance is required of undergraduates.

During the winter a series of vesper services is held in Sayles Hall on Wednesday afternoons at five o'clock, open both to students and to the public.

DORMITORY ACCOMMODATIONS

IN the University dormitories there are in all one hundred and thirty-two single rooms and thirty-four suites. The rooms in Hope College, University Hall, and Slater Hall are unfurnished. Those in Maxcy Hall and Caswell Hall contain all necessary furniture, occupants providing nothing except bedclothes and towels. A table showing the rent and location of the dormitory rooms is printed in the Appendix. The prices there given include rent, heat, and service for the college year. Lighting is not included; there are meters for each room, and the occupants are charged for the amount of light used.

Each student renting a room must sign a contract therefor in the form given below, on which surety may be demanded, binding him to pay or cause to be paid the rent of the room through the entire year. Where two students rent a room together, each must sign a contract for half the room expenses. This obligation is not impaired by the student's removal from the University, whatever the cause of such removal.

The following is a contract between Brown University, party of the first part, and the undersigned, party of the second part. I hereby engage room No. in ; the same not to be occupied by any other person without consent of the party of the first part; and I bind myself to pay or cause to be paid to the Registrar of Brown University the entire rent, including heat and service, amounting to \$ for the college year beginning September, 191

It is a part of this agreement that I shall be held responsible for all damage or defacement of such room or its furniture, ordinary wear excepted; also that disuse of the room by me on account of illness, or in case registration is refused me owing to low standing or bad conduct, does not impair the obligation of this contract.

Signed _____

This day of 191 .

Not more than two students are allowed regularly to occupy a room or suite. No sub-letting of rooms will be allowed. When the University holds full contracts for a room, the tenant or tenants may admit to the use of the room in the daytime one or two students, but not more than two. The names of any such sub-tenants must be reported to the Registrar as soon as the arrangement for sub-tenancy is made. For each sub-tenant the University makes an extra charge of \$1.50 a semester for service. This sum is paid by the tenant-in-chief, if there is but one; if there are two, each pays half.

All rooms not assigned for 1915-16 before May 7, 1915, will be disposed of at a drawing on May 22 at 4.30 p.m. Men intending to enter college in September can arrange to be represented at the drawing by notifying the Registrar.

UNIVERSITY FEES

FEES FOR UNDERGRADUATES. *Tuition:* \$52.50 a semester; \$105 a year. *Incidentals:* \$24 a semester; \$48 a year. *Matriculation fee* (Freshman year only): \$5. *Graduation fee* (Senior year only): \$8.

The incidental expenses are for the printing of programs, examination papers, and the like, the use of the library and the gymnasium, heat for these buildings and for the recitation rooms, and the wages of servants to care for them.

Special students who are taking courses amounting to less than fifteen hours a week pay in proportion to the actual amount taken.

FEES FOR RESIDENT GRADUATE STUDENTS. *Tuition:* \$75 a semester; \$150 a year. *Graduation fee:* for the degree of Master of Arts, \$15; for the degree of Master of Science, \$15; for the degree of Doctor of Philosophy, \$25.

Graduate students who are taking courses amounting to less than fifteen hours a week pay \$15 a semester for each three-hour course.

A candidate in residence for the degree of Master of Arts or Master of Science who has paid full tuition for one year may, if necessary to the attainment of his degree, continue his studies for one year more without additional charge.

A candidate in residence for the degree of Master of Arts, who without remitting his studies becomes a candidate for the degree of Doctor of Philosophy, is credited with whatever tuition he has already paid, in case his previous work is allowed to count toward the higher degree.

A candidate for the degree of Doctor of Philosophy who has paid full tuition for two years may, if necessary to the attainment of his degree, continue his studies for two years more without additional charge.

FEES FOR NON-RESIDENT GRADUATE STUDENTS. *Registration fee:* \$25. *Tuition:* \$15 a semester; \$30 a year. *Examination fee:* \$15.

A non-resident candidate is entitled, upon payment of the registration and tuition fees, to take one three-hour course in residence. For each additional course taken in residence a fee of \$15 a semester is charged.

A non-resident candidate who has paid tuition for two years may, if necessary to the attainment of his degree, continue his studies for one year more without additional charge, except for work taken at the University.

LABORATORY FEES. In addition to the regular fees mentioned above, the following fees are charged for laboratory courses. \$4.50 for each three-hour semester course in *Botany, Biology, Geology, Elementary Chemistry*. \$7.50 for each three-hour semester course in *Advanced Chemistry, Mechanical Engineering, Physics, Electrical Engineering*. These fees cover the cost of ordinary supplies; special supplies and breakage are charged extra.

SPECIAL FEES. Candidates for a first degree who do not pay four years full tuition fees must pay for all extra courses counted toward the degree at the rate of \$7.50 per semester for each three-hour course. This amount must be paid at the beginning of the semester preceding the completion of the degree work. This rule does not apply to courses credited from other institutions or taken during the summer.

Candidates for the degree of A.M. or Sc.M. who do not pay full tuition fees for one year, and candidates for the degree of Ph.D. who do not pay full tuition fees for two years, must pay for all extra courses counted toward the

degree at the rate of \$7.50 per semester for each three-hour course. This amount must be paid at the beginning of the semester preceding the completion of the degree work. This rule does not apply to courses credited from other institutions.

PAYMENT OF UNIVERSITY BILLS

Every student, graduate or undergraduate, must pay in advance, at registration for each semester, all charges for tuition and incidentals for such semester.

Students occupying dormitory rooms must also pay at the above time all room charges for the semester.

Students taking laboratory courses must also pay at the above time all laboratory fees for the semester. These fees vary from \$4.50 to \$7.50 for each three-hour laboratory course.

At the beginning of the second semester all students occupying dormitory rooms or taking laboratory courses must, in addition to the payment of the above amounts, make a deposit of \$5 toward charges for light or breakage during that semester.

Freshmen, candidates for degrees, must pay at registration for the first semester a matriculation fee of \$5.

Candidates for graduation in any year must pay all graduation fees at the beginning of the second semester of that year.

ESTIMATE OF ANNUAL EXPENSES

The following is an approximate estimate of the annual expenses of a student who occupies (with a room-mate) a dormitory room. It does not include the matriculation fee of \$5 in the first year, the graduation fee of \$8 in the fourth year, nor outlay for clothes and traveling or other strictly personal expenses.

	<i>Lowest</i>	<i>Moderate</i>	<i>Very Liberal</i>
<i>Tuition</i>	\$105.00	\$105.00	\$105.00
<i>Incidentals</i>	48.00	48.00	48.00
<i>Room rent, including heat and service</i>	53.50	75.00	187.50
<i>Board (36 weeks)</i>	160.00	200.00	250.00
<i>Books and laboratory expenses</i>	15.00	25.00	40.00
<i>Total</i>	<u>\$381.50</u>	<u>\$453.00</u>	<u>\$630.50</u>

THE BROWN UNION conducts a restaurant for its members in Rockefeller Hall; at present the price is \$5 a week.

Students who need to earn money find in the city numerous opportunities for doing so by giving private instruction, by teaching in evening schools, and in various other ways. See page 185.

FINANCIAL AID TO STUDENTS

THE aid which Brown University gives to students of limited means is granted under the following conditions: the recipient must be a candidate for a degree, having been fully admitted to the Freshman class or to advanced standing; he must be of good moral character and maintain a creditable standing in his studies: an average of C is expected; the aid will be withdrawn if the student is placed under college discipline or fails to maintain good scholarship; he must be in need of the financial assistance desired. The aid rendered is of three kinds: awards from fellowship, scholarship, and aid funds; loans; payment in cash or in credit on term bills for services rendered.

The administration of the scholarship and aid funds is in the hands of a committee of the Faculty, annually appointed by the Corporation. Applications for scholarships for a given academic year should be filed with the Secretary of the Committee on Scholarships as early as possible after April 1. The Committee will take action in each case as soon as all the requisite information is received. The President has charge of the administration of fellowships, loan funds, and the service system.

FELLOWSHIP, SCHOLARSHIP, AND AID FUNDS

THE GRAND ARMY OF THE REPUBLIC FELLOWSHIP. The income of a fund of ten thousand dollars given by the Grand Army of the Republic, Department of Rhode Island, is annually awarded to a graduate of Brown University, of acknowledged excellence in scholarship and character. The recipient must be enrolled as a candidate for the degree of Doctor of Philosophy or have obtained that degree, must reside at Brown University, and must devote himself exclusively to advanced liberal study. Holders of the fellowship are appointed by the President of the University, subject to the approval of the Board of Fellows. Appointments to the fellowship are regularly made for one year, but incumbents of special diligence or ability may be reappointed. Descendants of Union Veterans of the Civil War are always to be preferred when the other qualifications of candidates are equal. The political or religious preferences of candidates cannot be taken into consideration. The President is authorized to make such other conditions, not inconsistent with the above, as he may from time to time deem wise and proper. Applications for this fellowship must be made in writing on blanks furnished by the Dean of the Graduate Department, and must be in the hands of the President not later than April 15. The Grand Army of the Republic Fellow for 1914-15 is

SAMUEL TOMLINSON ARNOLD

THE OLIVER CROMWELL GORTON ARNOLD BIOLOGICAL FELLOWSHIP. This is a fund of ten thousand dollars given by Dr. Oliver Henry Arnold in memory of his father. The income, or any part of it, is given annually, according to the judgment and the discretion and under the direction of the President and the head of the Biological Department, for post-graduate work, to any student, either male or female, of good character, who is a graduate of any collegiate institution of recognized standing and who has shown during his or her college course great diligence, talent, and marked ability in biological work. If in any year there should be more than one applicant for this fellowship, the President and the head of the Biological Department select a beneficiary from the results of a competitive examination as well as from the known ability of the student to conduct original research giving promise of a successful career. Should there be more than one candidate of exceptional merit, the income of this fund may be divided between two of them, but it may be given to one of them should it seem best to the President and the head of the Biological Department. In awarding this fellowship, other qualifications being equal, the candidate most in need of assistance will be selected. Should any beneficiary prove in any manner unworthy of assistance, it shall be discontinued, and should a beneficiary give evidence of great ability for conducting original research and a promise of large usefulness in his or her professional career, this income may be continued to him or her for one, two, or three years, according to the judgment of the President and the head of the Biological Department. Should the income of this fund, or any part of it, not be used in any year, the unused amount shall be set aside as a fund to be used in any succeeding year in assisting any student in post-graduate research work in the Biological Department who shall have all the qualifications mentioned in the preceding sections; or it may be used for any of the necessary and legitimate expenses for the advancement of research work in the Biological Department. The Arnold Fellow for 1914-15 is

RALPH GIBNEY HURLIN

THE MORGAN EDWARDS FELLOWSHIP. This is a fund of ten thousand dollars given by the Philadelphia alumni of Brown University. Whenever the income from this fund shall amount to one thousand dollars it may be awarded by the President and Faculty of the University to an alumnus of not more than ten years' standing, for the pursuit of original research in any department of knowledge approved by the President and Faculty. The work may be carried on in any part of the world where it seems that the best facilities exist for the study of the subject selected. The award is to be made solely upon the ground of past merit and future promise. In exceptional circumstances the appointment may be continued for one or two additional periods of six months.

The first appointment will be made as of October 1, 1916.

THE EMMA JOSEPHINE AYER ARNOLD ARCHAEOLOGICAL FELLOWSHIP. This is a fund of ten thousand dollars given by Dr. Oliver Henry Arnold in memory of his wife. It is primarily for the Women's College (see page 246). But in case no graduate of the Women's College fulfils the conditions, the income of this fund may be paid, with the consent of the Dean of the Women's College, for one year, for post-graduate archaeological study, to some male student amply fulfilling all of the above conditions, first, to some member of the graduating class of the University, or second, to any graduate of the University who has been a graduate for not more than ten years. The candidate must be approved by the President of the University and the professors of the Greek and Latin Departments.

TEACHING FELLOWSHIPS. In addition to the foregoing a number of Teaching Fellowships have been established, information regarding which will be furnished by the President.

FUNDED SCHOLARSHIPS. There are now seventy-eight scholarships of one thousand dollars, each yielding the beneficiary fifty dollars annually. With the exceptions indicated below, they bear the names of their founders. The income is awarded annually according to the conditions attaching to each fund.

THE ELEVEN NICHOLAS BROWN SCHOLARSHIPS

THE FOUR UNIVERSITY SCHOLARSHIPS

THE PRESIDENT'S SCHOLARSHIP, founded by President Sears.

THE SIX ALVAH WOODS SCHOLARSHIPS

THE JAMES H. DUNCAN SCHOLARSHIP

THE ISAAC DAVIS SCHOLARSHIP

THE ARNOLD WHIPPLE SCHOLARSHIP, founded by Mrs. Arnold Whipple.

THE EPHRAIM WHEATON SCHOLARSHIP, founded by James Wheaton.

THE JOSEPH BROWN SCHOLARSHIP, founded by Mrs. E. B. Rogers.

THE GARDNER COLBY SCHOLARSHIP

THE CROCKER SCHOLARSHIP, founded by Robert H. Ives and Thomas P. Ives, Trustees.

THE CLARK SCHOLARSHIP, also founded by the Messrs. Ives.

THE GEORGE K. AND H. A. PEVEAR SCHOLARSHIP

THE JOSEPH CHARLES HARTSHORN SCHOLARSHIP

THE ROGERS HIGH SCHOOL SCHOLARSHIP, founded by William Sanford Rogers.

THE JAMES WHEATON SCHOLARSHIP

THE CHARLES THURBER SCHOLARSHIP

THE PARDON MILLER SCHOLARSHIP, founded by Mrs. Ann E. Miller.

THE HEZEKIAH S. CHASE SCHOLARSHIP

THE WILLIAM BUCKNELL SCHOLARSHIP

THE AUSTIN MERRICK SCHOLARSHIP, founded by Mrs. Olive E. Merrick.

THE HORATIO N. SLATER SCHOLARSHIP

THE EARL P. MASON SCHOLARSHIP

THE NEWPORT SCHOLARSHIP, founded by William Sanford Rogers.

THE ALEXIS CASWELL SCHOLARSHIP

THE THREE HENRY JACKSON SCHOLARSHIPS

THE MUMFORD SCHOLARSHIP, founded by Mrs. Louisa D. Mumford.

THE ALBERT DAY SCHOLARSHIP

THE HENRY P. KENT SCHOLARSHIP

THE ROMEO ELTON SCHOLARSHIP

THE FIVE ANNIE E. WATERS SCHOLARSHIPS

THE LEWIS FAIRBROTHER SCHOLARSHIP, founded by Mrs. Lewis Fairbrother.

THE GEORGE LAWTON SCHOLARSHIP

THE JOHN P. CROZER SCHOLARSHIP, founded by Mrs. Margaret Bucknell.

THE JAMES Y. SMITH SCHOLARSHIP

THE TWO S. S. BRADFORD SCHOLARSHIPS

THE FRANCIS R. ARNOLD SCHOLARSHIP

THE CORNELIA E. GREEN SCHOLARSHIP

THE TWO HENRY CLIFFORD KNIGHT SCHOLARSHIPS, founded by Miss Amelia S. Knight, in memory of her brother, a member of the class of 1875.

THE THURSTON SCHOLARSHIP, founded by the Honorable Benjamin F. Thurston, of the class of 1849.

THE RUFUS BABCOCK SCHOLARSHIP, founded by Mrs. Caroline Vassar Babcock Jones, in memory of her father, the Rev. Rufus Babcock, of the class of 1821.

THE JAMES FLETCHER BLACKINTON SCHOLARSHIP, founded by Mrs. Mary D. Blackinton, in honor of her husband, James Fletcher Blackinton, of the class of 1847.

THE SAMUEL WHITE DUNCAN SCHOLARSHIP, founded by Mrs. Mary Duncan Harris.

THE FIVE WILLIAM A. WHITE SCHOLARSHIPS, founded by Mrs. Abby S. A. White, in honor of her husband, William A. White, of the class of 1857.

THE RICHARDS SCHOLARSHIP, founded by the Rev. William Coolidge Richards, of the class of 1837.

THE BENJAMIN HUTCHINSON JUDAH SCHOLARSHIP

THE S. DRYDEN PHELPS SCHOLARSHIP, founded by the Rev. S. Dryden Phelps, of the class of 1844, the income to be given each year to some student who is preparing for the Baptist ministry.

THE ELIOT LOOMIS COLLINS SCHOLARSHIP, founded by Clarkson A. Collins in memory of his son, Eliot Loomis Collins, of the class of 1910, "the income to be given each year to some member of the Junior class needing pecuniary aid, who may possess his characteristic qualities of earnestness of application, steadfastness of character, and cheerful personality."

THE E. BENJAMIN ANDREWS SCHOLARSHIP, founded by the class of 1898.

THE JOSIAH NELSON CUSHING SCHOLARSHIP, founded by Samuel H. Tingley, Esq., in memory of Rev. Dr. Josiah Nelson Cushing, of the class of 1862, for forty years missionary in Burmah.

THE LUTHER WHITE SCHOLARSHIP, founded by Mabel Adaline White, in memory of her father, the Honorable Luther White, of the class of 1864, "the income to be given to deserving students, to be selected by the college authorities, but preference to be given always to male and female descendants of the members of the class of 1864."

There are also the following scholarships of larger amounts:

THE TWO GEORGE J. SHERMAN SCHOLARSHIPS, paid from the income of a fund of two thousand five hundred and sixty-five dollars.

THE BARTLETT SCHOLARSHIP of four thousand dollars, founded by Mrs. Elizabeth Slater Bartlett; the income to be "devoted to the support of one or more students needing pecuniary aid, and giving promise, by studious aim and by character and scholarship, of rising to distinction and usefulness."

THE GLOVER SCHOLARSHIP of five thousand dollars, founded by Henry R. Glover, "in memory of his father, Samuel Glover, of the class of 1808, and of his brother, Samuel Glover, Jr., of the class of 1839."

THE REBECCA A. WHEELER SCHOLARSHIP of fifteen hundred and seventy-one dollars; the income to assist some worthy student, preferably a candidate for the Baptist ministry.

THE SCHOLARSHIP OF THE CLASS OF 1838 of thirty-eight hundred dollars.

THE JOSEPH CHARLES HARTSHORN SCHOLARSHIP of two thousand dollars.

THE TWO BANIGAN SCHOLARSHIPS of three thousand dollars each, founded by Joseph Banigan, of Providence; the income as far as necessary to be used each year to defray the tuition of two students of the University.

THE GEORGE IDE CHACE SCHOLARSHIP of five thousand dollars, founded by Professor George Ide Chace, the income to be assigned each year by the Faculty to some member of the Senior class needing the money, who shows "marked ability, exemplary industry, generous aspirations, and irreproachable character." If in the Senior class there chances to be no person fulfilling the requirements of this scholarship, the proceeds of the scholarship for that year must be appropriated to the purchase of books for the Library of the University.

THE ABBY WHEATON CHACE SCHOLARSHIP of four thousand dollars, also founded by Professor George Ide Chace, the income to be assigned yearly by the Faculty to some member of the Junior class needing the money, who shows "marked ability, exemplary industry, generous aspirations, and irreproachable character." If in the Junior class there chances to be no person fulfilling the requirements of this scholarship, the proceeds of the scholarship for that year must be appropriated to the purchase of books for the Library of the University.

THE JOHN L. LINCOLN SCHOLARSHIP of twenty-five hundred dollars, founded by Abby G. Beckwith.

THE TRUMAN BECKWITH SCHOLARSHIP of twenty-five hundred dollars, founded by Abby G. Beckwith.

THE THAYER SCHOLARSHIP, founded by Edward C. Thayer, in honor of his father, Joseph Thayer, of the class of 1815; the income to be for the education of any young man or woman a resident of Uxbridge, Massachusetts, indorsed by the selectmen and superintendent of schools there, needing pecuniary aid, and giving promise by character and scholarship of a life of usefulness. If there is no applicant from Uxbridge, the income may go to any applicant from Massachusetts who fulfils the conditions.

THE TWO WALTER G. WEBSTER SCHOLARSHIPS, founded by the Rev. Walter G. Webster, of the class of 1878; the income to go each year to two young men, members of the Freshman class, holding the full diploma of the Classical High School of the City of Providence and duly matriculated for the degree of Bachelor of Arts; "the nomination to rest with the Principal of said school, and to be made on the basis of character and scholarship, due regard being had to the need of such assistance."

THE S. W. MARSTON SCHOLARSHIP, founded in the name of his father by Edgar L. Marston. This scholarship yields two hundred dollars a year, and is open to any graduate of William Jewell College who may be recommended by the President of that institution.

THE THREE E. L. MARSTON SCHOLARSHIPS, founded by Edgar L. Marston. Each of these scholarships yields two hundred dollars a year. The first scholarship is open to any graduate of La Grange College who may be recommended by the President of that institution. The second is open to any graduate of Baylor University under similar conditions. The third is open to any graduate of the Central High School in St. Louis, Missouri, subject to the recommendation of the Principal.

THE EATON SCHOLARSHIP of two thousand dollars, founded in memory of her husband by Mrs. Caroline B. Eaton; the income to be used "in the aid of indigent Baptist young men having the ministry in view, preference being given to young men from New Hampshire."

THE ALEXANDER FARNUM SCHOLARSHIP of two thousand dollars, founded by

the Rev. Augustus Woodbury; the income to be given to such student as the Faculty shall select, the primary condition being that such student shall have been prepared for college at Phillips Exeter Academy in Exeter, New Hampshire.

THE ALBERT HARKNESS SCHOLARSHIP of three thousand dollars, founded by Professor Albert Harkness; the income to be paid annually under the direction of the Faculty to some student of excellent character and high scholarship who shall be in need of pecuniary aid.

A FRIEND'S SCHOLARSHIP of five thousand dollars, founded by a friend of the University, the income to be awarded annually to some student in need of aid.

THE ELLEN READ NEWELL SCHOLARSHIP of three thousand dollars, founded by George W. Newell in memory of his wife; "the income to be expended (1) in behalf of some worthy graduate of the Pawtucket High School who may need financial help, (2) to such other meritorious student as the President or Faculty may designate."

THE FRED HOMER WILLIAMS SCHOLARSHIP of fifteen hundred dollars; the income to be awarded to some needy and worthy young man, preference being given to a graduate of the High School in Foxborough, Massachusetts.

THE GEORGE WOODLEY HOGG SCHOLARSHIP of five thousand dollars, in memory of George Woodley Hogg, of the class of 1894, the income to be awarded annually to either one or two students at the discretion of the Scholarship Committee, preferably, though not necessarily, to students residing in the State of Rhode Island.

THE DAVID W. HOYT SCHOLARSHIP of twenty-seven hundred dollars, founded by the Alumni Association of the Providence English High School; the income to go each year to some young man or woman designated by the Principal or the Acting Principal, for the time being, of the Providence English High School, subject to the approval of the President or the Acting President of Brown University.

AID FUNDS. There are ten aid funds at the disposal of the University. The income of these funds is divided into scholarships of varying amounts, which are awarded under the general conditions applicable to all scholarships. They are as follows:

THE AARON LUCIUS ORDWAY MEMORIAL FUND of twenty-five hundred dollars, founded by Samuel H. Ordway in the name of his father, "the income to be used in the discretion of the President to assist regular students of the University who are in need of assistance. Each student who accepts such assistance shall in writing acknowledge the receipt of the same and pledge himself to repay the amount so received by him as soon as he can conveniently afford to do so, all sums so repaid to be added to the principal."

THE NANCY GOODNOW FUND of two thousand dollars, the income to be expended in assisting one or more students of the University who are preparing to be ministers of the Baptist denomination in the United States.

THE AID FUND, established by friends of the University in 1868 and now amounting to ninety-three hundred dollars.

THE DANIEL WANTON LYMAN FUND FOR STUDENTS, established by Daniel Wanton Lyman and now amounting to \$72,250.

THE WILLIAM GROSBECK GODDARD MEMORIAL FUND of thirty-five hundred dollars, founded by Col. Robert H. I. Goddard in the name of his son, "the income to be used by the President or Acting President of the University, in his discretion, to aid young men without adequate means to obtain an education. Each beneficiary shall give a receipt for all money received, and shall agree, without making any written pledge, to refund amounts received by him whenever he can do so conveniently."

THE EDWIN A. W. HARLOW FUND, founded by Edwin A. W. Harlow, now amounting to \$10,400, the income to be "for assisting poor young men of excellent moral character in the Academic Department."

THE ROBERT H. HARLOW FUND of three thousand dollars, founded by Robert H. Harlow, the income to be "for assisting poor young men of excellent moral character in the Academic Department."

THE BENJAMIN BRAMAN FUND of one thousand dollars, the income to be granted annually to some worthy Christian student of limited means.

THE JAMES STANTON KENYON MEMORIAL FUND of three thousand dollars, founded by his daughters, Elizabeth Burrows Kenyon Wilkinson and Mary Stanton Kenyon, the income to be used to aid worthy young men of high personal character and of diligent application to their studies. Each beneficiary shall agree, without making any written pledge, to refund amounts received by him whenever he can do so conveniently, all sums so repaid to be added to the principal.

THE ROBERT JAMES YORKSTON MECKEL MEMORIAL FUND, founded by Miss Mary Wehmeyer, the income to be added to the principal until such time as the fund amounts to one thousand dollars. At that time "the income is to be used by the University in helping students who in the judgment of the President of the University may need assistance in carrying on their studies at Brown University."

UNIVERSITY SCHOLARSHIPS. In addition to the income of the Scholarship and Aid Funds, there have been established University scholarships, which are of three grades:

(1) A small number yielding each \$75 a semester or \$150 a year, awarded to a few students of especially high scholarship.

(2) A number yielding each \$50 a semester or \$100 a year.

(3) A number yielding each \$25 a semester or \$50 a year, used in part to supplement the smaller endowed scholarships, and also for those students needing relatively less assistance.

It is expected that the holders of these scholarships will regard them as in a certain sense loans, and will at some time after graduation return to the treasury the amount awarded, to be used for the increase of the permanent scholarship funds, or that they will in some other way contribute to the endowment of the University.

[B] LOAN FUNDS

I. The Alumni Loan Fund, now amounting to about forty-three hundred dollars, was established by the Alumni Association at the Commencement of 1900 by a vote transferring to the Treasurer of the University the fund formerly known as the Brown Loyalty Fund, to be used as a loan fund for students. The principal of this fund is loaned at interest, to be repaid as agreed upon in each instance.

II. There is another fund, of several hundred dollars, which is loaned in small amounts without interest, for short periods, to students unexpectedly needing temporary assistance.

[C] SERVICE

The University is able to give employment to a number of students as monitors, assistants in the libraries and laboratories, members of the choir, and clerks in the Registrar's office. Not more than two hours a day are ordinarily required of any student; the compensation is made at definite rates. At present about six thousand dollars a year is appropriated for service, and employment is given to about eighty students, who receive amounts varying from thirty dollars to sixty dollars a semester.

The University also coöperates with the Christian Association in securing employment for students by business houses and residents of the city. Students who desire any kind of work are requested to make application to the General Secretary of the Brown University Christian Association, Rockefeller Hall.

PREMIUMS, PRIZES, AND HONORS†

FOR EXCELLENCE IN PREPARATORY STUDIES

THE PRESIDENT'S PREMIUMS, derived from the income of a fund presented to the University in 1843 by President Wayland, supplemented from the income of the Hicks Prize Fund, No. 2, are awarded each year to those members of the Freshman class who upon examination are found to excel in the studies required for admission to the University in Greek and Latin. First and Second Premiums are awarded in each of these studies. The examinations deal with the general principles and laws of the languages involved rather than with irregularities and exceptions. Special importance is attached to the pupil's familiarity with the subject-matter of the works read, and to his ability to translate with accuracy and facility into clear, appropriate, and idiomatic English. The examination in Greek is held in 5 Maxcy Hall at 2.30 p.m. on the third Wednesday of the first semester, and that in Latin in 1 Sayles Hall at 2.30 p.m. on the fourth Wednesday. The award of these premiums in 1914 was as follows:

In Greek the first premium to GEORGE JULIUS HEIDT, *instructed in Mount Hermon School, Mount Hermon, Mass.*

The second premium to CHARLES GURNEY EDWARDS, *instructed in Moses Brown School, Providence.*

In Latin the first premium to ALBERT SANGER PRATT, *instructed in the High School, Putnam, Ct.*

The second premium to WALTER ADLER, *instructed in the Hope Street High School, Providence.*

THE HARTSHORN PREMIUMS IN MATHEMATICS, derived from the income of a fund of one thousand dollars presented to the University in 1872 by Joseph Charles Hartshorn, of the class of 1841, are awarded each year to the two members of the Freshman class who upon examination are found to excel in the mathematical studies required for admission to the University. The examination is held in 26 Wilson Hall at 2 p.m. on the fifth Wednesday of the first semester. The award of these premiums in 1914 was as follows:

The first premium to HAROLD ADAMS BACKUS, *instructed in the Technical High School, Springfield, Mass.*

The second premium to JAMES WALTER WILSON, *instructed in the High School, Manchester, N. H.*

† The premiums and prizes enumerated here are, with the exception of the *Society of Colonial Dames Prize in American History* (see page 247), intended for men. The students of the Women's College are, however, entitled to compete in all examinations for premiums and prizes offered in Brown University. In case any woman is entitled to a first premium, one is awarded her by the Dean of the Women's College. For premiums awarded to women in 1914 see page 248.

THE ENTRANCE PREMIUMS IN FRENCH, derived from the income of the Hicks Prize Fund, No. 2, are awarded each year to the two members of the Freshman class who upon examination are found to excel in the French studies required for admission to the University. The examination is held in 1 Sayles Hall at 2 p.m. on the sixth Wednesday of the first semester. The award of these premiums in 1914 was as follows:

The first premium to ARMAND LAURIER CARON, instructed in the High School, Southbridge, Mass.

The second premium to CHAUNCY TAFT LANGDON, instructed in Phillips Academy, Andover, Mass.

THE CAESAR MISCH ENTRANCE PREMIUMS IN GERMAN are awarded each year to the two members of the Freshman class who upon examination are found to excel in the German studies required for admission to the University. The examination is held in 5 Sayles Hall on the seventh Wednesday of the first semester. The award of these premiums in 1914 was as follows:

The first prize to WALTER ADLER, instructed in the Hope Street High School, Providence.

The second prize to CHARLES HENRY VEHESE, instructed in the Technical High School, Providence.

FOR EXCELLENCE IN UNIVERSITY STUDIES

THE CARPENTER PRIZES FOR ELOCUTION, derived from the income of a fund established in 1867 by Thomas Carpenter, are awarded each year to the three students to whom are assigned the first, the second, and the third rank of excellence in elocution. The competition is open to all members of the Sophomore class, and to those members of the Junior class who did not enter the preliminary competition in their Sophomore year. The selections declaimed may be either prose or verse. They must be approved by the Professor of Public Speaking, with whom competitors must enter their names not later than the first day of February. A preliminary contest for the purpose of selecting the speakers takes place in the early part of the first semester; all arrangements for it are in the hands of the Professor of Public Speaking. The committee of award consists of five members,—the Professor of Public Speaking, who is the chairman, two persons selected by the Corporation, and two persons selected by the Sophomore class during the first semester of the year; no one who is or has been a member of the class is eligible to membership in the committee. In 1915 the contest will be held in Manning Hall on April 27. In 1914 these prizes were awarded as follows:

The first prize to WILLIAM ARTHUR NEEDHAM

The second prize to HARRY EDWARD DOW

The third prize to ROBERT EMMET QUINN

THE HICKS PRIZES FOR EXCELLENCE IN DEBATE, established by the Honorable Ratcliffe Hicks, of the class of 1864, are annually awarded as follows:

I. Two prizes of fifty dollars each, one for each of the two sets of representatives of the University in the intercollegiate debates. In each instance the prize is given to the man showing the greatest ability both in the preliminary trials and in the final trial. In awarding the prize, regard is given to thought, style, and delivery. The judges are at least three in number, appointed by the Debating Union. In 1914 these prizes were awarded to

JAMES JOSEPH MCGOVERN *and* NAHUM MORRILL

II. A first prize of thirty dollars and two second prizes of twenty dollars to the students showing the greatest ability in a public debate between the representatives of the Junior and Sophomore classes. Each class is represented by three men, whom a committee appointed by the President of the University chooses from the preliminary contestants at least a month before the public debate. This committee also determines the subject and makes the necessary arrangements. The judges in the public debate are three, one appointed by the President, and one by each group of competitors. The prizes are awarded irrespective of the decision upon the debate as a whole. Any one prize may be withheld if no one is adjudged to deserve it. In making the award, regard is given to thought, style, and delivery. In 1915 the public debate will be held on May 18. In 1914 these prizes were awarded as follows:

The first prize to FRANCIS JOSEPH O'BRIEN

The second prizes to SAMUEL HENRY WORKMAN

and WILLIAM ARTHUR NEEDHAM

THE DUNN PREMIUM. The income of a fund of one thousand dollars, presented to the University in 1872 by pupils and friends of Professor Robinson Potter Dunn, is given, at the end of the Junior year, to the student having the highest standing in the courses in rhetoric, English composition, and public speaking. In making the award, regard is given to the number of such courses taken as well as to the rank attained in them. In 1914 this premium was awarded to

SHARON OSBORN BROWN

THE CARPENTER PREMIUMS, two in number, are derived from the income of funds established in 1867, one by Thomas Carpenter and one by Lydia Carpenter. They are assigned at the end of the Senior year to the two members of the Senior class who, "already on scholarships, shall, in the judgment of the Faculty, unite in the highest degree the three most important elements

of success in life,—ability, character, and attainment." In 1914 these premiums were awarded to

JAMES JOSEPH MCGOVERN and ARTHUR WILLIAM CATE

THE HOWELL PREMIUM. The income of a fund amounting to one thousand dollars, presented to the University in 1867 by Gamaliel Lyman Dwight, is given at the close of the first semester of the Senior year to the student who, "having a good record of deportment, has the highest rank in Mathematics and Natural Philosophy." To be considered a candidate for the premium, a student must, in each semester from the Freshman year to the end of the first semester in the Senior year, take at least one of the elective courses in pure or applied mathematics. In 1914 this premium was awarded to

RAYMOND FRANKLIN BORDEN

THE CLASS OF 1873 PRIZE. The income of a fund of one thousand dollars, presented to the University by the class of 1873, is awarded each year to that member of the Senior class who writes the best essay on a historical or a philosophical subject. The subjects, which are of a historical nature one year and of a philosophical nature the next, are assigned by the respective departments. For 1914-15 the subject is: *A critical examination of the Philosophy of Nietzsche*. For 1913-14 the subject was: *English Political Ethics in the Eighteenth Century*. No prize was awarded.

THE FOSTER PREMIUM IN GREEK is derived from the income of a fund of three thousand dollars bequeathed to the University in 1880 by the Honorable Lafayette Sabine Foster, of the class of 1828. In accordance with the terms of the donor's will, the income of this fund is to be "annually paid to that scholar of the institution who passes the best examination in the Greek language, the examination to be made in the first, third, and twenty-fourth books of Homer's *Iliad*, or in the *Oration on the Crown* by Demosthenes." The examinations are open to the members of the Senior class. The next examination will be held on Wednesday, May 5, 1915; candidates will be examined in the *Iliad*. In 1914 no premium was awarded.

THE LUCIUS LYON PREMIUMS IN LATIN are derived from the income of a fund of five thousand dollars presented to the University in 1893 by Mrs. Caroline L. Lyon, in memory of her husband, Lucius Lyon, of the class of 1844. Five-tenths of the income each year forms the first premium, three-tenths the second, and two-tenths the third. Any part of the income not needed in any given year must be added to the fund. The premiums are awarded on the basis of a special examination held during the second semester of the Senior year. In 1915 the examination will be held on Wednesday, May 19. The examination may relate to any or all of the following subjects: the Latin language, Roman literature, Roman history. The President of the University and the head of the Department of Roman Literature and History pre-

scribe the conditions for admission to the examination. In 1914 the premiums were awarded as follows :

No first premium was awarded

The second premium to IRVING THAYER BOARDMAN

No third premium was awarded

THE BENNETT PRIZE. The income of a fund of four hundred dollars, established by Philo S. Bennett in 1905, will be awarded annually for an essay on Free Government. The conditions governing the competition will be announced later.

THE CLASS OF 1880 PRIZES, established in 1905 by the class of 1880, are awarded each year to the undergraduates of Brown University who show the most ability in presenting arguments on some current question of importance to Brown University. The subject for discussion, the time, and the manner of presentation are all determined by representatives of the English department in consultation with the president of the Debating Union and the editors-in-chief of the *Brunonian* and the *Brown Daily Herald*. The prizes are awarded by a board of five judges: two are appointed by the President of the University, two by the undergraduate members of the committee in charge; the fifth is a member of the English department.

In 1914-15 a first prize of thirty-five dollars and a second prize of twenty-five dollars will be awarded to the students who show the most ability in a public discussion of the subject: *Shall the Honor System of conducting examinations be adopted at Brown?* This discussion will be held on December 19; a preliminary discussion will be held on December 12. A first prize of twenty-five dollars and a second prize of fifteen dollars will be awarded to the writers of the best argumentative essays of from three thousand to five thousand words upon the same subject. The essays must be signed with an assumed name; they must be in the hands of the Registrar before 4 p.m., December 4. Either prize for the essay may be withheld if the judges deem it best. A student may enter both competitions. For 1913-14 the subject was: *What is the best method of dealing with the problem of Board for the students of Brown University?* The prizes were awarded as follows:

The first prize for the discussion to JAMES JOSEPH MCGOVERN

The second prize for the discussion to SIDNEY CLIFFORD

The first prize for the essay to JAMES JOSEPH MCGOVERN

The second prize for the essay to ISMAR BARUCH

THE SOCIETY OF COLONIAL DAMES PRIZE IN AMERICAN HISTORY. The income of a fund of fifteen hundred dollars, known as The Roger Williams Fund established by the National Society of Colonial Dames in the State of Rhode Island and Providence Plantations, given to the University in 1906, is awarded each year as a prize for the best essay on a subject in American colonial history. The competition is open to Juniors, Seniors, and Graduates,

and to men and women on equal terms. Essays must show independent use of authorities, and should, in general, extend to at least four thousand words. Detailed regulations governing the competition are announced from year to year, and the name of the successful competitor is announced at Commencement. For 1914-15 the subject is: *The Participation of Rhode Island in the French and Indian Wars*. The subject for the essay in 1913-14 was: *A Comparative Study of Religious Liberty in Rhode Island and in Maryland during the Seventeenth Century*. The prize was awarded to

ELISHA CHESTER DURFEE

THE BISHOP McVICKAR PRIZES were founded by the late Rt. Rev. William N. McVickar, Bishop of the Protestant Episcopal Diocese of Rhode Island, and are continued by his sister, Miss E. C. McVickar. A first prize of fifty dollars, and a second prize of twenty-five dollars, is awarded for the best essays of from three to four thousand words on a subject assigned by the Department of Biblical Literature. The competition is open to undergraduate men who are, or have been, students in the Department of Biblical Literature. Those who intend to compete must give their names to the head of the department not later than March 1, and essays, under an assumed name, must be delivered to the Registrar not later than the first Saturday in May. For 1914-15 the subject is: *The Ancient Hebrew Prophets and the Modern Social Crisis*. For 1913-14 the subject was: *The Historical Sources for the Life of Jesus*. The prizes were awarded as follows:

The first prize to EDWARD IRVING EVERETT

The second prize to ARTHUR WILLIAM CATE

THE WILLIAM GASTON SCHOLARSHIP. This fund of five thousand dollars was established in 1899 by the widow and children of the Honorable William Gaston, LL.D., of the class of 1840. Its income is awarded annually by the Faculty solely upon merit, without reference to financial condition. For 1914-15 this scholarship was awarded to

ISMAR BARUCH

THE GASTON PRIZE MEDAL FOR EXCELLENCE IN ORATORY. From the income of a fund of three thousand dollars established in 1894 as a memorial to the Honorable William Gaston, LL.D., of the class of 1840, a gold medal is annually awarded to the member of the graduating class who delivers the best original oration in English. The orations are not to exceed fifteen hundred words. In order to compete for the prize, a student must deposit with the Registrar a typewritten copy of his oration, signed with an assumed name, six weeks before the public competition. From these orations a committee appointed by the President of the University selects not more than six for delivery. The committee of award in the final contest consists of three members appointed by the President. In making the award, regard is given to thought, style, and delivery. The winner of the medal is entitled to de-

liver an oration at Commencement. In 1915 the orations must be deposited with the Registrar on or before March 24; the public competition will be held on May 11. In 1914 no competition was held.

HONOR SCHOLARSHIPS

To encourage proficiency in studies and to provide recognition for successful application to college work, the Faculty has established Honor Scholarships without aid as follows:

THE JAMES MANNING SCHOLARSHIPS, awarded to those undergraduates whose work throughout the year has been of such excellence that they are deemed worthy of very high academic distinction.

For 1913-14 these scholarships were awarded as follows:

Class of 1914

Arthur William Cate	Herbert Elliott Foote
Abraham Feitelberg	Leroy Arnold Spooner

Class of 1915

Ismar Baruch	Harold Leslie Myers
Samuel Greene Arnold Rogers	

Class of 1917

Bancroft Huntington Brown	Daniel Parkhurst Spalding
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THE FRANCIS WAYLAND SCHOLARSHIPS, awarded to those undergraduates who have shown marked excellence in their work, but have not attained the standard required for the James Manning scholarships.

For 1913-14 these scholarships were awarded as follows:

Class of 1914

Raymond Franklin Borden	James Joseph McGovern
Chester Lewis Knowles	Raymond Abner Preston
Cyril Carpenter Smith	

Class of 1915

Ralph Leon Blanchard	Herbert Newell Nicholas
George Fremont Bliven	George Willis Waterman
Wilbur Tobias Breckenridge	William Randall Waterman

Class of 1916

Abraham Joseph Burt	Francis Joseph O'Brien
John Stuart Coleman	Harry Weeden Underwood
Claus Emanuel Ekstrom	Amasa Fitch Williston

Class of 1917

Thomas Baird Appleget	Gilbert Congdon Carpenter, Jr.
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APPOINTMENTS FOR COMMENCEMENT

At Commencement four members of the graduating class deliver original orations in English of not more than fifteen hundred words each. One speaker is the winner of the Gaston medal; the others are appointed by the Faculty on the recommendation of a special committee on Commencement speakers. The basis of selection is scholarship, ability to write, and ability to speak. In 1914 the speakers selected by the Faculty were:

ARTHUR WILLIAM CATE

JAMES JOSEPH MCGOVERN

RAYMOND ABNER PRESTON

FINAL HONORS

FINAL HONORS in any department are awarded, at the completion of the studies leading to a bachelor's degree, to those who have secured: (1) A mark of A in courses in the department aggregating twelve or more semester hours; (2) a mark of B or A in eighty-five per cent of all their courses of study. In any department, however, certain specified courses may not be included in those counted for Final Honors. The names of all students awarded Final Honors are printed in the Commencement Program and in the Annual Catalogue. In 1914 the awards were as follows:

ARTHUR WILLIAM CATE, *Education, English, Germanic Languages and Literatures, Romance Languages and Literatures.*

HERBERT ELLIOTT FOOTE, *Chemistry, Mathematics.*

MARION KENNETH FORWARD, *English.*

CHESTER LEWIS KNOWLES, *Chemistry.*

JAMES JOSEPH MCGOVERN, *Economics, English, Germanic Languages and Literatures, Social and Political Science.*

HALSEY REGINALD NASH, *Chemistry.*

RAYMOND ABNER PRESTON, *English.*

CYRIL CARPENTER SMITH, *Biology, Chemistry.*

ESTHER GEORGINA ANDERSON, *English.*

MARGUERITE APPLETON, *Art.*

MIRIAM AMY BANKS, *English.*

ELISABETH BODFISH, *Biology, Chemistry, Mathematics.*

ALITA DOROTHY BOSWORTH, *Art, Germanic Languages and Literatures.*

MARY LYON BOSWORTH, *English, Greek Literature and History.*

DORIS SNOW BRIGGS, *Education, English, Mathematics.*

GRACE AMELIA COCKROFT, *Education, History, Mathematics.*

MILDRED ELAINE CUTLER, *Romance Languages and Literatures.*

HELEN AUGUSTA GILLILAND, *English.*

MARY CHRISTINA GRANDFIELD, *Roman Literature and History, Romance Languages and Literatures, Spanish*

DOROTHY PALMER HULL, *English, Greek Literature and History.*

WINONA MERLE PERRY, *Mathematics.*

MAUDE EUNICE SEARS, *Latin.*

ROWENA ALBRO SHERMAN, *English.*

FLORENCE MCGREGOR SIMONDS, *English, History, Romance Languages and Literatures.*

MARJORIE ARNOLD THAYER, *English, Germanic Languages and Literatures.*

DEGREES CONFERRED IN 1914

DEGREES IN COURSE

BACHELOR OF ARTS

David Isaac Adelman	Benjamin Harrison Marshall
James Grant Anderson	Kenneth Oliver Mason
Stephen Sibley Bean	Lawrence Carl Thompson Miller
Charles Everett Blackway	Robert Ewing Mitchell
Edward Tappan Brackett	Nahum Morrill
Charles Edward Brady	Reginald Poland
Ernest Rexford Cleaveland	Raymond Abner Preston
James Lawrence Cummings	Arthur Forest Ranger
Elisha Chester Durfee	Morgan Witter Rogers
Edward Irving Everett	George Emil Ronne
James Vincent Giblin	Harry John Rubin
Frederick Rowland Hazard, Jr.	Leon Beckwith Savacool
Allan Lincoln Langley	Melvin Eugene Sawin
Robert Mendon Lord	Edson Kirk Smith
James Joseph McGovern	Walter Hoff Sprague
Edward Aloysius McLaughlin	Norris Elwin Woodbury

Marguerite Appleton	Mary Christina Grandfield
Rose Mary Bancroft	Dorothy Palmer Hull
Marion Cheever Bates	Myrtle Horton Jones
Harriet Stanton Baxter	Sybil Marguerite Kemp
Mary Lyon Bosworth	Elizabeth Price Moulton
Doris Snow Briggs	Mabel Irene Osborne
Helen Harriet Briggs	Jenny Martha Palmer
Margaret Josephine Burdon	Annette Josephine Pritzkau
Mildred Myrtle Chapman	Maude Eunice Sears
Ruth Elizabeth Cooke	Florence Louise Shaw
Katherine Elizabeth Curry	Rowena Albro Sherman
Mildred Elaine Cutler	Florence McGregor Simonds
Marion Frances Devine	Hope Sisson
Blanche Douglas	Marjorie Arnold Thayer
Anna Madeline Flaherty	Alice Mary Waddington
Helen Augusta Gilliland	Della Edith Wood

BACHELOR OF PHILOSOPHY

James Gelston Affleck, Jr.	Charles Louis Bagnall
Lester Johnson Ainsworth	Arthur Elliot Bartlett

Raymond Franklin Borden
 Earl Kingsley Brown
 Howard Adams Brown
 Watson Frederick Buehler
 Elliot Towle Bugbee
 Arthur William Cate
 Hubert Hayward Champney
 William Albert Chappell
 Edwin Pulver Cook
 Joseph Edward Cook
 Clarence Adelbert Davis
 Frederick Davis
 Peter Francis Dugan
 Eugene Ross Dukette
 Arthur Dudley Durgin
 Abraham Feitelberg
 Chester Arthur Files
 Herbert Elliott Foote
 Marion Kenneth Forward
 Victor Carl Gelb
 George Sidney Goodspeed
 David Edward Henry
 Arnold Smith Hoffman
 Robert Stowe Holding, Jr.
 Thomas Leo Keily

Esther Georgina Anderson
 Viola Helen Anderson
 Miriam Amy Banks
 Elisabeth Bodfish
 Alita Dorothy Bosworth
 Grace Amelia Cockroft
 Jane Wilson Cook
 Hermione Louise Dealey
 Mildred Morris Flagg

Chester Lewis Knowles
 Fred Lynn Loucks
 Ralph Baker Low
 Elmer George MacDowell
 Melville Carlos Mason
 Percy Davol Meader
 Herbert Earl Morgan Medbury
 William Anthony Moffett
 Halsey Reginald Nash
 Stephen Jefferson Patten
 Henry Philip Reynolds
 Stanley James Rowland
 Israel Remington Sheldon. *With the
 class of 1911*
 James Ira Shepard
 Cyril Carpenter Smith
 Leroy Arnold Spooner
 Harold Hardy Sprague
 William Francis Tewhill
 Earl Hammond Walker
 Roger Williams
 Maurice Augustus Wolf
 Sidney Waddington Wray
 Ernest Elwood Yeaton

Anna Ruth Goodchild
 Edith Edwina Holden
 Elena Roxana Lovell
 Marjorie Anita Mallory
 Winona Merle Perry
 Stella Mary Smith
 Maud Tucker
 Helen Humphry Wood

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Austin Norcross Cook
 Earl Whittemore Harrington
 Jean Martial Legris
 Joseph George Nathanson
 Howard Randolph Perrin

John Lovell Sperry
 Eli Monie Viner
 Cyril Horace Wakefield
 Norman Hale Whitehead
 Charles Lester Woolley

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Joseph Holliston Farnham
 Reber Nettleton Johnson
 Sylvanus Henry Hill Parsons
 Albert Weber Protheroe

Raymond Leonard Smith
 Ward Wetmore
 Francis Merrill Willett

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Harold Leavitt Cushing
 Gilbert Williams Hodges

James Everett Ricker

MASTER OF ARTS

Charles Harlan Abbott, A.B.
 James Gelston Affleck, Jr.
 Clarence Edwin Ayres, A.B.
 Marion Emmett Bratcher, A.B.
 Anna Bryan, Ph.B.
 Alice Sheehan Carroll, A.B.
 Arthur William Cate
 Margaret Brooks Church, A.B.
 Norah Eloise Dowell, Ph.B.
 William Raymond Eastwood, Ph.B.
 Helen Emerson, A.B.
 Herbert Elliott Foote
 Orie P. Gruelle, A.B.
 Frederick Rowland Hazard, Jr.

Edmund Talma Jillson, A.B.
 Ira Lloyd Letts, Ph.B.
 Harry Havelock Lowry, A.B.
 Marion Rawson Luther, A.B.
 Andrew Hamilton MacPhail, Ph.B.
 Daniel Lawrence Mahoney, Ph.B.
 Kenneth Oliver Mason
 Nahum Morrill
 Robert Hardin Power, A.B.
 Clarence Newton Reynolds, Jr., Ph.B.
 Helen Louise Sullivan, A.B.
 Margaret Frances Upton, A.B.
 Charles Waterman Walker, A.B.
 George Franklin Weston, Jr., Ph.B.

MASTER OF SCIENCE

Samuel Tomlinson Arnold, A.B.
 John Joseph Long, Ph.B.

Thomas Howarth Roberts, Ph.B.

DOCTOR OF PHILOSOPHY

Robert Gamble Caswell, Ph.B., Sc.M.

THESIS: "A Study of the Reduction Products of some Aromatic Compounds."

Harold William Lyall, A.B., A.M.

THESIS: "A Contribution to the Study of the Streptococci."

Robert McBurney Mitchell, A.B.

THESIS: "Theory of the Novelle."

George Henry Robinson, A.B., A.M.

THESIS: "Isolation, Identification, and Serum Reactions of Typhoid and Paratyphoid Bacilli."

Lester Angell Round, A.B., A.M.

THESIS: "Contributions to the Bacteriology of the Oyster."

BROWN UNIVERSITY
DEGREES OUT OF COURSE

BACHELOR OF PHILOSOPHY

Almon Andrus Jaynes. *With the class of 1899*

BACHELOR OF SCIENCE

Edwin Aylesworth Burlingame

HONORARY DEGREES

MASTER OF ARTS

RICHARD BORDEN COMSTOCK

ELIZA GREENE RADEKE

DOCTOR OF DIVINITY

WILLIAM EDWARD GARDNER

HERMAN WILLIAM WATJEN

THOMAS ROBERTS SLICER

DOCTOR OF SCIENCE

LUTHER EMMETT HOLT

DOCTOR OF LETTERS

HENRY ROBINSON PALMER

VERNON PURINTON SQUIRES

DOCTOR OF LAWS

CHARLES WILLIAM ELIOT

LIST OF STUDENTS

GRADUATES

- David Isaac Adelman *Providence*
A.B. (*Brown University*) 1914. Economics, History, Political Science. Enrolled candidate for A.M.
- Elton Merville Adye *Forestville, N. Y.*
Ph.B. (*Brown University*) 1902. Physics. Registered candidate for A.M.
- Levon Manoog Aharonian *Armenia*
A.B. (*Euphrates College, Harpoot, Armenia*). Chemistry, French. Registered candidate for A.M.
- Abel Alexius Ahlquist *Pontiac*
A.B. (*Augustana College*) 1903 ; B.D. (*Augustana Theological Seminary*) 1909. Biblical Literature. Registered candidate for A.M.
- Richard Day Allen *Providence*
A.B. (*Brown University*) 1910 ; A.M. 1912. Education, English. Registered candidate for Ph.D.
- Susanne Carey Allinson *Providence*
A.B. (*Bryn Mawr College*) 1910. Art. Registered candidate for A.M.
- Waldo Vanderbilt Andrews *Pawtucket*
A.B. (*Bates College*) 1911. Physics. Registered candidate for A.M.
- Samuel Tomlinson Arnold *Corinna, Me.*
A.B. (*Brown University*) 1913 ; Sc.M. 1914. Chemistry, Physics. Registered candidate for Ph.D.
- Rose Mary Bancroft *Glastonbury, Ct.*
A.B. (*Bryn Mawr College*) 1914. Education. Registered candidate for A.M.
- Jessie Helen Barr *Providence*
A.B. (*Brown University*) 1913. English. Registered candidate for A.M.
- Reuben Charles Bates *Providence*
Sc.B. (*Rhode Island State College*) 1913. Education. Registered candidate for A.M.
- Irving Thayer Boardman *Providence*
A.B. (*Brown University*) 1914. Education, Greek, Mathematics. Enrolled candidate for A.M.
- Elisabeth Bodfish *Palmer, Mass.*
Ph.B. (*Brown University*) 1914. Education, Botany. Registered candidate for A.M.
- Raymond Franklin Borden *Melville*
Ph.B. (*Brown University*) 1914. Mathematics, Physics, Mechanics. Enrolled candidate for A.M.
- Alita Dorothy Bosworth *Providence*
Ph.B. (*Brown University*) 1914. Education, English, French. Enrolled candidate for A.M.
- Mary Lyon Bosworth *Providence*
A.B. (*Brown University*) 1914. Education, English. Enrolled candidate for A.M.
- Marion Emmett Bratcher *Ekron, Ky.*
A.B. (*William Jewell College*) 1913 ; A.M. (*Brown University*) 1914. Social Science, Biblical Literature. Registered candidate for Ph.D.
- Henrietta Celia Brazeau *Pawtucket*
A.B. (*Brown University*) 1906. Education. Registered candidate for A.M.
- Doris Snow Briggs *Providence*
A.B. (*Brown University*) 1914. Education, English. Enrolled candidate for A.M.

- Isabel Marion Brownson *Providence*
A.B. (*Brown University*) 1905. Economics. Registered candidate for A.M.
- Joseph A. Butler *Warren*
A.B. (*Holy Cross College*) 1906. Education. Registered candidate for A.M.
- Charles Carroll *Providence*
A.B. (*Brown University*) 1898; A.M. 1913; LL.B. (*Harvard University*) 1901. Education, Political and Social Science. Enrolled candidate for Ph.D.
- Hubert Hayward Champney *Taunton, Mass.*
Ph.B. (*Brown University*) 1914. Chemistry. Enrolled candidate for Sc.M.
- Margaret Brooks Church *Providence*
A.B. (*Brown University*) 1912; A.M. 1914. Botany, Biology. Registered candidate for Ph.D.
- Millie Dimond Church *Chelsea, Mass.*
Ph.B. (*Brown University*) 1905. English, Education. Enrolled candidate for A.M.
- Benjamin Crocker Clough *Tisbury, Mass.*
A.B. (*Harvard University*) 1911. English. Registered candidate for A.M.
- Raymond Carpenter Colwell *Johnston*
A.B. (*Brown University*) 1913. Biology. Enrolled candidate for Sc.M.
- Percy Raymond Crosby *Wakefield, Mass.*
Sc.M. (*New Hampshire State College*) 1912. Education. Registered candidate for A.M.
- Cecil Merne Putnam Cross *Providence*
History, Education, Political Science. Enrolled candidate for A.M.
- James Laurence Cummings *Fall River, Mass.*
A.B. (*Brown University*) 1914. Education. Registered candidate for A.M.
- Clinton Harvey Currier *Providence*
Ph.B. (*Brown University*) 1898; A.M. 1899. Mathematics, Astronomy. Enrolled candidate for Ph.D.
- Frederick Davis *Montclair, N. J.*
Ph.B. (*Brown University*) 1914. Social Science, Biblical Literature. Registered candidate for A.M.
- Herbert Franklin Davison *Pawtucket*
Ph.B., A.M. (*Brown University*) 1905. Chemistry, Physics. Registered candidate for Ph.D.
- Anne Marjorie Day *Providence*
A.B. (*Vassar College*) 1898. English. Registered candidate for A.M.
- Marion Frances Devine *Woonsocket*
A.B. (*Brown University*) 1914. Education, Latin, French. Enrolled candidate for A.M.
- Norah Eloise Dowell *Providence*
Ph.B. (*Brown University*) 1913; A.M. 1914. Geology, Philosophy. Registered candidate for Ph.D.
- James Russell Esty *Slatersville*
Sc.B. (*Brown University*) 1914. Biology, Philosophy. Enrolled candidate for Sc.M.
- Ralph Beach Farnum *Providence*
Sc.B. (*Brown University*) 1910. Education. Registered candidate for A.M.
- Arline Field *Providence*
Ph.B. (*Brown University*) 1911; A.M. 1912. Biology, Chemistry. Registered candidate for Ph.D.
- Lewis Carter Flocken *Pawtucket*
A.B. (*Wesleyan University*) 1912; A.M. 1913. Education, Latin, Greek. Registered candidate for Ph.D.

- Herbert Elliott Foote *Pawtucket*
Ph.B., A.M. (*Brown University*) 1914; Chemistry, Physics. Registered candidate for Ph.D.
- Marion Kenneth Forward *Chicago, Ill.*
Ph.B. (*Brown University*) 1914. English. Registered candidate for A.M.
- Paul Hart Francis *Providence*
Sc.B. (*Brown University*) 1912; Sc.M. 1913. Physics. Registered candidate for Ph.D.
- Robert Jaquith Fuller *North Attleboro, Mass.*
A.B. (*Brown University*) 1898. Education. Enrolled candidate for A.M.
- Grace Brown Gardner *Nantucket, Mass.*
A.B. (*Cornell University*) 1914. Botany, Biology. Enrolled candidate for A.M.
- Carl B. Gibson *Logansport, Ind.*
A.B. (*Wabash College*) 1914. Botany, Chemistry. Enrolled candidate for A.M.
- Lillian Moller Gilbreth *Providence*
B.L. (*University of California*) 1900; M.L. 1902. Education, Philosophy. Enrolled candidate for Ph.D.
- Sven Gustaf Hagglund *Providence*
A.B. (*Augustana College*) 1900; B.D. (*Augustana Theological Seminary*) 1904. Social Science, Biblical Literature. Enrolled candidate for A.M. and registered candidate for Ph.D.
- Sarah Newton Hallett *Providence*
Ph.B. (*Brown University*) 1901. History, Latin, Philosophy. Enrolled candidate for A.M.
- Irene Hawes *Riverside*
Ph.B. (*Brown University*) 1912. Education. Registered candidate for A.M.
- Alfred Cary Hawkins *Plainfield, N. J.*
B.S. (*Columbia University*) 1909; A.M. (*Princeton University*) 1912. Geology. Enrolled candidate for Ph.D.
- Alice Frances Hildreth *Providence*
Ph.B. (*Brown University*) 1911. Education. Registered candidate for A.M.
- Judith Barber Hopkins *Putnam, Ct.*
A.B. (*Brown University*) 1906. Social Science. Registered candidate for A.M.
- Nathaniel Orson Howard *Conimicut*
Ph.B. (*Brown University*) 1903. Chemistry, Botany. Registered candidate for A.M.
- Ralph Gibney Hurlin *Antrim, N. H.*
A.B. (*Brown University*) 1912; A.M. 1913. Biology. Enrolled candidate for Ph.D.
- Arthur Burton Hussey *Leominster, Mass.*
A.B. (*Bates College*) 1914. Education, Physics. Enrolled candidate for A.M.
- Edwin William Johnson *Pawtucket*
A.B. (*Bowdoin College*) 1909. Education. Enrolled candidate for A.M.
- Bernard Aloysius Keenan *Pawtucket*
A.B., A.M. (*Brown University*) 1909. German, Romance Languages. Enrolled candidate for Ph.D.
- Audrey Vera Kelsey *Grand Forks, N. D.*
A.B. (*North Dakota University*) 1914. English. Enrolled candidate for A.M.
- Lowell Clapp Kendrick *Providence*
Ph.B. (*Brown University*) 1912; A.M. 1913. Biology, Engineering. Registered candidate for Ph.D.
- Elizabeth Hamilton Kipp *Providence*
A.B. (*Wellesley College*) 1913. German. Registered candidate for A.M.

- Chester Lewis Knowles *Narragansett Pier*
Ph.B. (*Brown University*) 1914. Chemistry. Enrolled candidate for Sc.M.
- Karl Henry Koopman *Providence*
A.B. (*Brown University*) 1913. English. Enrolled candidate for A.M.
- Benjamin Towne Leland *Providence*
A.B. (*Harvard University*) 1906. Education. Registered candidate for A.M.
- Benjamin Samuel Levine *Rockville, Ct.*
B.S. (*Trinity College*) 1912; Sc.M. (*Brown University*) 1913. Biology. Enrolled candidate for Ph.D.
- Ralph Baker Low *Essex, Mass.*
Ph.B. (*Brown University*) 1914. Education, History. Enrolled candidate for A.M.
- Harry Havelock Lowry *Providence*
A.B. (*Bates College*) 1912; A.M. (*Brown University*) 1914. Education. Registered candidate for Ph.D.
- Francis Aloysius Mangan *Pawtucket*
A.B. (*Boston College*) 1913. Education. Registered candidate for A.M.
- Albert Pray Martin *Pawtucket*
A.B. (*Brown University*) 1913; A.M. (*University of Wisconsin*) 1914. German, English. Registered candidate for Ph.D.
- Harriet Tracy Marvell *Fall River, Mass.*
A.B. (*Wellesley College*) 1897. Geology. Registered candidate for A.M.
- Marguerite Matthews *Providence*
A.B. (*Mount Holyoke College*) 1914. English, Education. Enrolled candidate for A.M.
- Joseph Belfield McIntyre *Providence*
Ph.B. (*Brown University*) 1894. Botany. Registered candidate for Sc.M.
- Leland Scott McLeod *La Grange, Mo.*
Ph.B. (*La Grange College*) 1914. Education, Political Science, Romance Languages. Enrolled candidate for A.M.
- Percy Davol Meader *Providence*
Ph.B. (*Brown University*) 1914. Biology, Botany. Enrolled candidate for A.M.
- Otilie Rose Metzger *Providence*
A.B. (*Brown University*) 1913. History. Registered candidate for A.M.
- Jesse Benton Mowry *Chepachet*
Sc.B. (*Norwich University*) 1892; A.M. 1913. Education, Philosophy, Botany. Enrolled candidate for A.M.
- Courtland Sawin Mudge *Providence*
Ph.B. (*Brown University*) 1911; A.M. 1912. Biology. Enrolled candidate for Ph.D.
- Ira Leston Nickerson *Johnston*
A.B. (*Brown University*) 1907. Education. Registered candidate for A.M.
- James Francis O'Donoghue *Lowell, Mass.*
Mathematics, Physics. Enrolled candidate for A.M.
- Jenny Martha Palmer *Cranston*
A.B. (*Brown University*) 1914. Education. Registered candidate for A.M.
- Winona Merle Perry *Providence*
Ph.B. (*Brown University*) 1914. Mathematics, Physics. Enrolled candidate for A.M.
- Robert Hardin Power *Yuma, Ariz.*
A.B. (*Baylor University*) 1913; A.M. (*Brown University*) 1914. Social Science, Education. Registered candidate for Ph.D.
- Arthur Forest Ranger *Providence*
A.B. (*Brown University*) 1914. Education, English, Latin. Enrolled candidate for A.M.

- John H. Reilly *North Adams, Mass.*
A.B. (*Holy Cross College*) 1913. Education. Registered candidate for A.M.
- Arthur Leslie Reynolds *Wakefield*
Sc.B. (*Rhode Island State College*) 1913. Education. Enrolled candidate for A.M.
- Kenneth Stillman Rice *Gloucester, Mass.*
Ph.B. (*Brown University*) 1913. Biology. Enrolled candidate for Sc.M.
- James Everett Ricker *Providence*
Sc.B. (*Brown University*) 1914. Chemistry, English. Registered candidate for Sc.M.
- Stephen Hendrix Rider *Gilmer, Texas*
A.B. (*Baylor University*) 1914. Education. Enrolled candidate for A.M.
- Harry Edward Roelke *Frederick, Md.*
Ph.B. (*Brown University*) 1911. Social Science. Registered candidate for A.M.
- Constance Brayton Rose *Providence*
A.B. (*Wellesley College*) 1914. Education. Registered candidate for A.M.
- Ella Joy Rose *Providence*
Sc.B. (*Simmons College*) 1913. Education. Registered candidate for A.M.
- Rowena Albro Sherman *Providence*
A.B. (*Brown University*) 1914. Education. Registered candidate for A.M.
- Warren Andrew Sherman *Phenix*
A.B. (*Brown University*) 1911. Education. Registered candidate for A.M.
- Hope Sisson *Providence*
A.B. (*Brown University*) 1914. Biblical Literature, Music, Art. Registered candidate for A.M.
- Bertha Louise Skinner *South Swansea, Mass.*
A.B. (*Smith College*) 1910. French. Registered candidate for A.M.
- Harold Everett Smiley *Providence*
Ph.B. (*Brown University*) 1912; Sc.M. 1913. Biology. Enrolled candidate for Ph.D.
- George Hathorn Smith *Meredith, N. H.*
A.B. (*Bates College*) 1909; A.M. (*Brown University*) 1910. Biology. Enrolled candidate for Ph.D.
- John Lebroc Smith *Auburn*
Sc.B. (*Rhode Island State College*) 1908. Education. Enrolled candidate for A.M.
- Stella Mary Smith *Fall River, Mass.*
Ph.B. (*Brown University*) 1914. Education. Registered candidate for A.M.
- Walter Henry Snell *Brockton, Mass.*
A.B. (*Brown University*) 1913. Botany. Enrolled candidate for A.M.
- Florence Binford Southwick *Pawtucket*
Ph.B. (*Brown University*) 1912. Mathematics. Registered candidate for A.M.
- Walter Hoff Sprague *Somerset, Mass.*
A.B. (*Brown University*) 1914. History, Political Science, English. Enrolled candidate for A.M.
- John Lovell Sperry *Oak Lawn*
Sc.B. (*Brown University*) 1914. Geology. Enrolled candidate for Sc.M.
- Henry Jennison Blakeley Stitt *Pawtucket*
Ph.B. (*Brown University*) 1912. Education. Registered candidate for A.M.
- Mary Clegg Suffa *Providence*
A.B. (*Brown University*) 1910. Mathematics, Mechanics. Enrolled candidate for A.M.
- Julia Winifred Sullivan *Fall River, Mass.*
A.B. (*Trinity College*) 1914. Education. Registered candidate for A.M.

- Mary Sweetland *Barrington*
A.B. (*Brown University*) 1912. German, Latin. Enrolled candidate for A.M.
- Helen McKelvey Swift *Fall River, Mass.*
A.B. (*Oberlin College*) 1914. Education. Registered candidate for A.M.
- Elias Charles Sydney *Providence*
Biology, Chemistry. Enrolled candidate for A.M.
- Minnie White Taylor *Providence*
A.B. (*Brown University*) 1913. Botany. Registered candidate for A.M.
- Joseph Willard Thomas *East Douglas, Mass.*
A.B. (*Wesleyan University*) 1896. Education. Registered candidate for A.M.
- Eleanor Stuart Upton *Providence*
A.B. (*Smith College*) 1909; A.M. (*Brown University*) 1910. Social Science. Registered candidate for Ph.D.
- Edward Howland Wardwell *New Canaan, Ct.*
Sc.B. (*Princeton University*) 1911. Biology. Registered candidate for Ph.D.
- Carle O. Warren *Gorham, Me.*
A.B. (*Bowdoin College*) 1912. Education. Registered candidate for A.M.
- Amey Mildred Wentworth *Brockton, Mass.*
A.B. (*Mount Holyoke College*) 1912. Education. Enrolled candidate for A.M.
- Marion Dodge Weston *Georgetown, Mass.*
A.B. (*Mount Holyoke College*) 1906; A.M. 1909. Geology, Botany. Registered candidate for Ph.D.
- Lucius Albert Whipple *Saylesville*
Sc.B. (*Rhode Island State College*) 1908. Education. Registered candidate for A.M.
- Ida Mae Whitlow *Wichita, Kan.*
A.B. (*Friends' University*) 1911. Social Science. Registered candidate for A.M.
- Alfred Howard Williamson *Providence*
Ph.B. (*Brown University*) 1913. Education, History, English. Enrolled candidate for A.M.

UNDERGRADUATES WITH THE DEGREES FOR WHICH THEY ARE REGISTERED

[A. = A.B. P. = PH.B. S. = SC.B.]

SENIORS : CLASS OF 1915

NAME		RESIDENCE
John Blair Abbott	P	<i>St. Louis, Mo.</i>
Edgar Allen	P	<i>Edgewood</i>
Sewell Woodberry Allison	S	<i>Rehoboth, Mass.</i>
Alfred Wyatt Anthony	P	<i>Lewiston, Me.</i>
Charles Percy Babington	P	<i>Cranston</i>
Arthur Earl Barnard	P	<i>Providence</i>
Ismar Baruch	P	<i>New London, Ct.</i>
William Emmet Beehan	A	<i>Providence</i>
Samuel Benjamin	A	<i>Providence</i>

NAME		RESIDENCE
Ralph Leon Blanchard	A	<i>Pittsfield, Me.</i>
Harrison Bliss	P	<i>Providence</i>
George Fremont Bliven	P	<i>Providence</i>
Earl Allwood Bowen	P	<i>Providence</i>
Joseph Brown Bowen	P	<i>Pawtucket</i>
John Hanson Bower	P	<i>Methuen, Mass.</i>
Francis Chapin Breckenridge	P	<i>Providence</i>
Wilbur Tobias Breckenridge	S	<i>Providence</i>
Oscar Anthony Brown	A	<i>West Kingston</i>
Sharon Osborn Brown	A	<i>Providence</i>
Ray Lawrence Burnell	S	<i>Westbrook, Me.</i>
Walter Russell Burnham	A	<i>Central Falls</i>
William Russell Burwell	A	<i>Providence</i>
Edward Raymond Campbell	P	<i>Putney, Vt.</i>
Leonard Brown Campbell	P	<i>Providence</i>
John Rudolph Carlson	S	<i>Roslindale, Mass.</i>
Theodore Chandler	P	<i>Auburndale, Mass.</i>
Chen Chong Chen	P	<i>Shanghai, China</i>
Charles Myron Clegg	P	<i>Youngstown, Ohio</i>
Sidney Clifford	A	<i>Providence</i>
Roland Edes Copeland	S	<i>Roxbury, Mass.</i>
Edward John Corcoran	A	<i>Newport</i>
Clarence Frederic Corp	S	<i>Providence</i>
Ralph Waldo Cram	P	<i>Melrose, Mass.</i>
Frank Bennett Crocker	P	<i>Le Roy, N. Y.</i>
William Clinton Crolius, Jr.	P	<i>Denver, Col.</i>
Cecil Merne Putnam Cross	A	<i>Providence</i>
Minot Jay Crowell	P	<i>Melrose, Mass.</i>
Shirley Everett Culver	A	<i>Attleboro, Mass.</i>
Paul Oliver Curtis	A	<i>Dorchester Centre, Mass.</i>
John Morris Davis	P	<i>Youngstown, Ohio</i>
Harvey Gladding Denham	S	<i>South Attleboro, Mass.</i>
Donald Dike	P	<i>Melrose, Mass.</i>
Henry Forrester Drake	P	<i>Brooklyn, N. Y.</i>
Norman Le Roy Duncan	P	<i>Woburn, Mass.</i>
Harold Thomas Eaton	A	<i>Stonington, Ct.</i>
MacDonald Edinger	A	<i>Kingston, N. Y.</i>
Wilmer Hughes Eicke	A	<i>Narragansett Pier</i>
Ernest Hartwell Emery	A	<i>North Kingstown</i>
Carl De Witt Everingham	A	<i>Suncook, N. H.</i>
Eliot Harold Falk	P	<i>Meriden, Ct.</i>
Shiang-fuan Fay	S	<i>Tientsin, China</i>
Silas William Foss	S	<i>Laconia, N. H.</i>

NAME		RESIDENCE
Franklin Blaine Frost	P	<i>Tiverton</i>
Raymond Bissett Gallant	P	<i>Exeter, N. H.</i>
Wallace Lester Gallup	A	<i>Springfield, Mass.</i>
John Lindley Gammell	A	<i>Providence</i>
Wallace Allyn Gannon	S	<i>Newark, N. J.</i>
Alexander Andrew Gardiner	A	<i>Holyoke, Mass.</i>
Harold Leslie Gibbs	A	<i>Westfield, Mass.</i>
Roderick Allen Gillis	P	<i>Pugwash, N. S.</i>
Aaron Elmer Gottshall	A	<i>Providence</i>
Ralph Brown Graham	P	<i>Lynn, Mass.</i>
Frederick Hartwell Greene	P	<i>Newton Centre, Mass.</i>
Joseph Irving Greene	P	<i>Fishkill-on-Hudson, N. Y.</i>
Benjamin Harry Grossman	P	<i>Providence</i>
John Russell Haire	A	<i>Newport</i>
Lawrence Hall	P	<i>Providence</i>
Herman Nichols Harcourt	P	<i>Wappingers Falls, N. Y.</i>
Clifford Sherman Hathaway	P	<i>Peace Dale</i>
George Elmer Chalmers Hayes	A	<i>Washington, D. C.</i>
Schuyler Victor Hayward	P	<i>Chicago, Ill.</i>
George Earl Hebner	P	<i>Le Roy, N. Y.</i>
Prescott William Hill	P	<i>Providence</i>
Edward Winslow Hincks	P	<i>Providence</i>
Edward Joseph Horrigan	S	<i>Providence</i>
Dana Mortimer Hubbard	P	<i>Woburn, Mass.</i>
Morris Edwin Hultslander	S	<i>Walden, N. Y.</i>
Frederic Johnson Hunt	A	<i>East Providence</i>
Harley Clifford Hyde	P	<i>Cranston</i>
Harold Mitchell Jackson	P	<i>Brockton, Mass.</i>
John Leslie Jenney	S	<i>Pawtucket</i>
William Thomas Joyce	P	<i>Worcester, Mass.</i>
John Edward Kelly	P	<i>Le Roy, N. Y.</i>
Paul Joseph Kingsley	A	<i>Providence</i>
Harold Clarence Kinne	S	<i>Pawtucket</i>
Clarence Joseph Lamb	A	<i>Pawtucket</i>
Howard Langley	A	<i>Newport</i>
George Henry Anthony La Roe	A	<i>Providence</i>
Herbert Austin Larrabee	P	<i>Peabody, Mass.</i>
Herbert James Lawson	S	<i>Clinton, Mass.</i>
Leslie Torrence Little	P	<i>Picture Rocks, Pa.</i>
William Fowler Littlejohn	P	<i>Barre, Vt.</i>
Earl Francis Luther	P	<i>East Providence</i>
Harvey Bullinger McCrone	S	<i>St. Johnsville, N. Y.</i>
Raymond C. McKay	A	<i>Youngstown, Ohio</i>

NAME		RESIDENCE
Rowland Hazard McLaughlin	P	<i>Chicago, Ill.</i>
Richard Lambie McLean	A	<i>Boston, Mass.</i>
Colin Gordon McLeod	P	<i>Providence</i>
Fred William Miller	P	<i>Ivoryton, Ct.</i>
Joseph Miller	P	<i>Narragansett Pier</i>
Harold Cranston Miner	A	<i>East Greenwich</i>
Seth Kimball Mitchell	P	<i>Bradford, Mass.</i>
Harold Leslie Myers	A	<i>Morristown, N. J.</i>
William Arthur Needham	P	<i>Providence</i>
Hendrik Gabriel Nelson	P	<i>Providence</i>
Herbert Newell Nicholas	A	<i>Pawtucket</i>
John Henry Nolan	A	<i>Newport</i>
Warren Perham Norton	A	<i>Waymart, Pa.</i>
James Francis O'Donoghue	P	<i>Lowell, Mass.</i>
Benedict Max Olch	A	<i>Providence</i>
John Anthony Owen, Jr.	S	<i>Providence</i>
Lester Curtis Page	A	<i>Phenix</i>
George Thomas Paine	S	<i>Warwick</i>
John Albert Weld Pearce	S	<i>New Bedford, Mass.</i>
Charles Stuart Phelps	P	<i>Rockland, Mass.</i>
Roy Cleveland Phillips	P	<i>Norwich, Ct.</i>
Wilber John Phillips	P	<i>Youngstown, Ohio</i>
Charles Austin Piper	P	<i>Franklin, Me.</i>
Howard Lewis Quimby	S	<i>South Acton, Mass.</i>
Robert Emmet Quinn	A	<i>River Point</i>
Adams Thurber Rice	P	<i>Newton Centre, Mass.</i>
Richard Drury Rice	P	<i>Lynn, Mass.</i>
William Karl Rice	P	<i>Adams, N. Y.</i>
Frederick John Rogers	A	<i>Providence</i>
Samuel Greene Arnold Rogers	A	<i>Evanston, Ill.</i>
Hans Herbert Rohrbach	A	<i>Providence</i>
Philip Carl Scherer, Jr.	P	<i>Brooklyn, N. Y.</i>
William Paine Sheffield, Jr.	A	<i>Newport</i>
Maurice Siff	A	<i>St. Louis, Mo.</i>
John Joseph Skolnick	S	<i>New York, N. Y.</i>
Edward Rowland Smith	A	<i>Providence</i>
Edgar Jonathan Staff	P	<i>Brockton, Mass.</i>
Richard Boardman Stanley	A	<i>Plymouth, N. H.</i>
Joseph Henry Stannard	S	<i>Providence</i>
Milton Hammond Stansbury	A	<i>West Chester, Pa.</i>
Elliot Shippen Staples	A	<i>Burlington, Vt.</i>
Wallace Gear Stewart	P	<i>East Orange, N. J.</i>
Sherman Merrill Strong	P	<i>Chicago, Ill.</i>

NAME		RESIDENCE
Parke Hardy Struthers	P	<i>Townsend, Mass.</i>
William Francis Sullivan	A	<i>Lowell, Mass.</i>
Louis Morenci Sweeny	S	<i>Poughkeepsie, N. Y.</i>
Elias Charles Sydney	A	<i>Providence</i>
Harold Murdock Taylor	P	<i>Meshanticut</i>
Carl Anthony Terry	A	<i>Fall River, Mass.</i>
Harold Winthrop Tucker	P	<i>Providence</i>
James Joseph Tyrrell	S	<i>Pawtucket</i>
George Clark Valentine	P	<i>Ballston Spa, N. Y.</i>
Homer Emsley Van Derwerken	A	<i>Middle Granville, N. Y.</i>
Edward Robert Walsh, Jr.	S	<i>Roslindale, Mass.</i>
George Willis Waterman	P	<i>Providence</i>
William Randall Waterman	P	<i>Providence</i>
Harold Earle Watson	P	<i>Cranston</i>
Byron Lillibridge West	P	<i>Edgewood</i>
Theodore Peters Whittemore	P	<i>West Roxbury, Mass.</i>
Harold Leslie Wilson	P	<i>Youngstown, Ohio</i>
Russell Mills Wilson	A	<i>Providence</i>
Edward Harrison Winsor	A	<i>Providence</i>
Samuel Henry Workman	A	<i>Providence</i>

JUNIORS: CLASS OF 1916

Maurice Adelman	A	<i>Providence</i>
William Russell Affleck	P	<i>Yonkers, N. Y.</i>
Arvid Axel Alm	S	<i>Peabody, Mass.</i>
Harold Patterson Andrews	P	<i>Providence</i>
George Ralph Arnold	P	<i>Providence</i>
Lincoln Richards Arnold	P	<i>Providence</i>
Jesse Mitchell Bailey	P	<i>Providence</i>
Floyd Hall Baker	A	<i>Hazard, Ky.</i>
Frederick Allan Ballou, Jr.	P	<i>Providence</i>
Richard Davis Banigan	S	<i>Providence</i>
Harold Chester Barney	P	<i>East Providence</i>
Louis Earl Bauer	P	<i>Linwood, N. Y.</i>
George Stacy Bearse	A	<i>Dorchester, Mass.</i>
Edward Warren Blue	S	<i>Newton, Mass.</i>
John Morton Booth	A	<i>Fall River, Mass.</i>
Elliot Harris Bosworth	P	<i>Chicopee Falls, Mass.</i>
Francis James Brady	A	<i>Providence</i>
Leon William Brower	A	<i>Providence</i>
Joseph Richard Brown	P	<i>Provincetown, Mass.</i>
Abraham Jacob Burt	A	<i>Providence</i>

NAME		RESIDENCE
Harry Hunter Burton	S	<i>New Bedford, Mass.</i>
Nathan Benedict Burton	A	<i>Woodbury, Ct.</i>
Howard Seibert Butterweck	P	<i>Allentown, Pa.</i>
Seward Groves Byam	P	<i>North Adams, Mass.</i>
George Joseph Aloysius Cairns	A	<i>Providence</i>
John Joseph Cashman	A	<i>Providence</i>
William Curtis Chase	A	<i>Providence</i>
Henry Leon Cohen	P	<i>Providence</i>
John Stuart Coleman	P	<i>Providence</i>
Albert Bullock Coop	S	<i>Providence</i>
Edmond Patrick Corcoran	A	<i>Rockville, Ct.</i>
Joseph Merritt Couse	P	<i>Asbury Park, N. J.</i>
Edward Ingersoll Cristy	P	<i>Providence</i>
George Burton Cumerford	P	<i>Providence</i>
Gerald Dwight Curtis	A	<i>Warwick Neck</i>
Samuel Reed Damon	P	<i>Kingston</i>
Elmer Freman Davenport	P	<i>Shelburne Falls, Mass.</i>
Herman Mantell Davis	A	<i>Providence</i>
William Heisel Dick	S	<i>New Bedford, Mass.</i>
Richard Dresser	P	<i>Providence</i>
John Bernard Dunn	P	<i>Providence</i>
Henry Dursin, Jr.	S	<i>Woonsocket</i>
Francis Michael Dwyer	A	<i>Providence</i>
George Arthur Eames	A	<i>London, England</i>
John Lamson Eddy	S	<i>Providence</i>
Claus Emanuel Ekstrom	A	<i>Providence</i>
Gordon Banham Ewing	P	<i>Newton Centre, Mass.</i>
Arthur Warren Fairchild	P	<i>Newtown, Ct.</i>
Horace Janney Farlee	P	<i>Lambertville, N. J.</i>
Philip Aaron Feiner	P	<i>Providence</i>
Herman Feinstein	A	<i>Providence</i>
Willard Ware Ferguson	A	<i>Burlington, Vt.</i>
Frederick Lum Ferris	P	<i>East Orange, N. J.</i>
Charles Curtis Field	S	<i>Exeter, N. H.</i>
Theodore Richard Ford	P	<i>Morristown, N. J.</i>
Joseph Joaquim Fraga	S	<i>Providence</i>
Earl Russell Fretz	P	<i>Ottsville, Pa.</i>
Phillip Paddock Goodwill, Jr.	P	<i>Bramwell, W. Va.</i>
William Augustus Graham	A	<i>Providence</i>
Harold Raymond Hall	P	<i>Hackettstown, N. J.</i>
Ernest Halliwell	A	<i>Fall River, Mass.</i>
Joseph Francis Halloran	P	<i>Fall River, Mass.</i>
Clarence Thomas Hamill	P	<i>Holyoke, Mass.</i>

NAME		RESIDENCE
Walter Sumner Hayward	A	<i>Rochester, N. Y.</i>
John Clark Hazlett	P	<i>Kankakee, Ill.</i>
Francis Carmody Healey	P	<i>Cuba, N. Y.</i>
Clifford Davenport Heathcote	P	<i>Providence</i>
Charles James Hill	A	<i>Syracuse, N. Y.</i>
Ployer Peter Hill	S	<i>Newburyport, Mass.</i>
Gustave Desiré Houtmann	S	<i>Manville</i>
Thomas Mayno Hull	P	<i>Providence</i>
William Henry Hurlin	P	<i>Antrim, N. H.</i>
Willis Hobron Jeffery	P	<i>Providence</i>
Austin Jenison	P	<i>Lansing, Mich.</i>
George Franklin Johnston	P	<i>Long Branch, N. J.</i>
Barclay Lincoln Jones	P	<i>South China, Me.</i>
Edward Lawrence Kehoe	P	<i>Naugatuck, Ct.</i>
Roger Sturtevant Kellen	S	<i>Cohasset, Mass.</i>
Thomas Bartholomae Keville	A	<i>Providence</i>
Joseph Aubrey Landschoof	A	<i>Dunkirk, N. Y.</i>
Newton Peckham Leonard	P	<i>Providence</i>
Vincent Washburn Leonard	S	<i>Fairhaven, Mass.</i>
Charles Alick Levin	A	<i>Norwich, Ct.</i>
Herbert Royal Lindblom	S	<i>Providence</i>
Harold Irving Long	A	<i>Sharon, Mass.</i>
Myer Joseph Lozovitsky	A	<i>Providence</i>
Burton Loren Lucas	P	<i>Rumford</i>
Paul Crouse Lyall	P	<i>Lawrence, Mass.</i>
Stanley Howard Lyons	P	<i>Providence</i>
William Rhodes LeRoy McBee	P	<i>Providence</i>
James Joseph McGinn	A	<i>Providence</i>
Charles Berger MacKay	P	<i>Providence</i>
Hugh Stanford McLeod	A	<i>Providence</i>
Roger Laurence Marble	A	<i>Brockton, Mass.</i>
Ernest Fremont Mattison	S	<i>Edgewood</i>
Allen Guy Maxwell	A	<i>Slatington, Pa.</i>
Albert Edward Mayoh	P	<i>Pawtucket</i>
Harold Madison Messer	P	<i>Newbury, N. H.</i>
Paul Barney Metcalf	P	<i>Wickford</i>
Herman Michelson	S	<i>New York, N. Y.</i>
Paul Peter Miller	P	<i>Sterling, Ct.</i>
John Wesley Moore	A	<i>Fall River, Mass.</i>
Henry Avery Morgan	S	<i>Niagara Falls, N. Y.</i>
Wilfred McCullough Murch	P	<i>Providence</i>
James Anthony Murphy	P	<i>Whitman, Mass.</i>
David Wilson Neill, Jr.	S	<i>Bernardsville, N. J.</i>

NAME		RESIDENCE
Francis Joseph O'Brien	A	<i>Providence</i>
William Nicholas Ormsby	P	<i>Dorchester, Mass.</i>
Henry Bacheller Osborn	P	<i>Peabody, Mass.</i>
Frank Eugene Paine, Jr.	P	<i>Warwick</i>
John Pitkins Palmer	P	<i>Stockbridge, Mass.</i>
Clayton Leroy Phillips	P	<i>New Haven, Ct.</i>
Ralph Williams Pratt	S	<i>Newton Centre, Mass.</i>
Russell Billings Quimby	S	<i>South Acton, Mass.</i>
Vernon Rice	A	<i>Williamsport, Pa.</i>
John Joseph Riley	P	<i>New Bedford, Mass.</i>
Jacob Rosenberg	P	<i>Fall River, Mass.</i>
Paul Lewis Russell	P	<i>White Plains, N. Y.</i>
Carlo Canio Russo	A	<i>San Fele, Italy</i>
John Alexander Ryrie	A	<i>Alton, Ill.</i>
Earl Duckworth Sanford	A	<i>Providence</i>
Percy Waterman Sarle	P	<i>Providence</i>
Wilbour Eddy Saunders	A	<i>Providence</i>
Harold George Saxton	P	<i>Brockton, Mass.</i>
Earle Winslow Schoonmaker	P	<i>Newark, N. J.</i>
Harold Duel Scott	A	<i>Granville, N. Y.</i>
Abraham Shoul	P	<i>Newburyport, Mass.</i>
Abraham William Sidkowsky	S	<i>Providence</i>
Paul Foster Sinclair	P	<i>Underhill, Vt.</i>
James Edward Skane	S	<i>Providence</i>
Franklin Chapman Smith	S	<i>Westerly</i>
Frederick Lee Smith, Jr.	S	<i>Providence</i>
Frank Russell Smith	P	<i>Norwich, Ct.</i>
Wilbur John Snyder	A	<i>Buzzards Bay, Mass.</i>
Frank Elmer Starrett	P	<i>Athol, Mass.</i>
David Steel	P	<i>Auburn</i>
Joseph Laycock Strickland	A	<i>Lawrence, Mass.</i>
Edmund James Sullivan	S	<i>Providence</i>
William Francis Sullivan, 2d	P	<i>Wellesley Hills, Mass.</i>
Henry Weeden Underwood, Jr.	P	<i>Narragansett Pier</i>
Edward Ferdinand Waldron	P	<i>Dighton, Mass.</i>
Guy William Wells	P	<i>Montrose, Pa.</i>
John Frederick Wendt	S	<i>Providence</i>
George Morrill White	P	<i>Providence</i>
Irving Clough White	A	<i>Lynn, Mass.</i>
Amasa Fitch Williston	A	<i>Tiverton</i>
Edward Talpey Willson, Jr.	P	<i>Farmington, N. H.</i>
Henry Parker Witte	P	<i>Morristown, N. J.</i>
Earl Franklin Wood	A	<i>Danielson, Ct.</i>

NAME		RESIDENCE
George Henry Wood, Jr.	P	<i>Pawtucket</i>
Stuart Edsall Yeakel	P	<i>East Orange, N. J.</i>

SOPHOMORES: CLASS OF 1917

Abraham Lincoln Abel	A	<i>Lawrence, Mass.</i>
Roger Upham Allard	P	<i>Providence</i>
Ralph Carleton Allen	P	<i>Abington, Mass.</i>
Thomas Baird Appleget	P	<i>New York, N. Y.</i>
Ralph Avery Armstrong	A	<i>Franklin, Ct.</i>
Kenneth Nelson Atwater	P	<i>Newark, N. J.</i>
Joel Mead Austin	P	<i>Cairo, N. Y.</i>
Hugh Bain	S	<i>Providence</i>
Alfred Withington Baker	S	<i>Allston, Mass.</i>
Eugene LeRoy Bamforth	S	<i>Providence</i>
Nelson Barlow	P	<i>Pawtucket</i>
Elmer Ellsworth Barnes	S	<i>Providence</i>
Henry Augustus Batchelor	P	<i>Detroit, Mich.</i>
Alexander Peck Bates	A	<i>West Greenwich Centre</i>
Edgar Otis Benson	P	<i>Auburn</i>
Raymond Clarke Blanchard	A	<i>Providence</i>
Arthur Edward Breckenridge	P	<i>Providence</i>
Bancroft Huntington Brown	A	<i>Hyde Park, Mass.</i>
Edwin Leslie Brown	P	<i>Media, Pa.</i>
John Francis Brown	P	<i>Providence</i>
John Russell Brown	P	<i>Morgan Park, Ill.</i>
Malcolm Wright Burnham	S	<i>Hopedale, Mass.</i>
Harold Abbott Butler	S	<i>Mansfield, Mass.</i>
Ward Elsmere Butler	P	<i>Providence</i>
Angelo Anthony Caldarone	A	<i>Providence</i>
Frank Caesar Cambio	A	<i>Providence</i>
Anthony Caputi	S	<i>Providence</i>
Gilbert Congdon Carpenter, Jr.	S	<i>Providence</i>
Paul Cartwright	S	<i>Wakefield, Mass.</i>
Perry Moreland Chadwick	P	<i>Tuscola, Ill.</i>
Wallace Rhodes Chandler, Jr.	A	<i>Providence</i>
William Thomas Manning Cleare	S	<i>Fall River, Mass.</i>
Leon Eugene Close	P	<i>Moravia, N. Y.</i>
Frederick Willis Conover	P	<i>Point Pleasant, N. J.</i>
Walter Austin Cooper	A	<i>Attleboro, Mass.</i>
George Copeland	S	<i>New London, Ct.</i>
Howard David Corkum	P	<i>Leominster, Mass.</i>
Bertrand Munroe Cromack, Jr.	P	<i>Colrain, Mass.</i>

NAME		RESIDENCE
Adolph Curtis	S	<i>New York, N. Y.</i>
Carleton Herbert Day	P	<i>Waltham, Mass.</i>
Ralph Tillinghast Denison	P	<i>Moosup, Ct.</i>
Arthur John De Nommé	P	<i>Arctic</i>
Ralph Di Leone	A	<i>Providence</i>
Asahel Stultz Dillon	P	<i>Youngstown, Ohio</i>
Theophilus Dimmick	P	<i>Staatsberg, N. Y.</i>
Donald Kelsey Dobbs	P	<i>New York, N. Y.</i>
David Barney Feinberg	P	<i>Lake Placid, N. Y.</i>
James Gordon Fernald	A	<i>Upper Montclair, N. J.</i>
Arthur Barden Finch	P	<i>Providence</i>
Norman Lincoln Fishel	P	<i>Roxbury, Mass.</i>
Kenneth Ainsworth Flanders	P	<i>Providence</i>
Albert Henry Flint, Jr.	P	<i>Bristol</i>
Robert Nathaniel Foote	S	<i>New York, N. Y.</i>
Irving Scott Fraser	S	<i>Providence</i>
Walter Gordon Frauenheim	P	<i>Pittsburgh, Pa.</i>
Joseph Otis Fuller	S	<i>Providence</i>
Oliver Addison Fuller	S	<i>Providence</i>
David Thayer Gallison	P	<i>Franklin, Mass.</i>
Lory Talman Gardner, 2d	S	<i>Providence</i>
Rodolphe Armidas Gladue	P	<i>Woonsocket</i>
William John Grace	P	<i>Bernardsville, N. J.</i>
Joseph Daniel Haggerty	S	<i>Poughkeepsie, N. Y.</i>
Henry Theodore Hagstrom	P	<i>Youngstown, Ohio</i>
Bicknell Hall, Jr.	S	<i>Taunton, Mass.</i>
John Robert Wheaton Hall	P	<i>Warren</i>
Herbert Percival Halvorson	S	<i>Pawtucket</i>
Robert Warren Hamilton	P	<i>Providence</i>
William Harshowitz	P	<i>New London, Ct.</i>
Orville Byron Hayward	P	<i>Chicago, Ill.</i>
Maurice Whitcomb Holton	P	<i>Manchester, N. H.</i>
Arthur Bartlett Homer	P	<i>Providence</i>
Arthur Ariel Hopkins	P	<i>Aldenville, Pa.</i>
William Stanley Howard	A	<i>Providence</i>
Harry Arden Hughes	S	<i>Providence</i>
Rowland Roberts Hughes	P	<i>West Long Branch, N. J.</i>
William Newton Hughes	A	<i>Manton</i>
Oliver Weekes Ingersoll, Jr.	S	<i>Brooklyn, N. Y.</i>
Wendell Everett James	A	<i>Providence</i>
Bruce Monat Jeffris	A	<i>Janesville, Wis.</i>
Raymond Earl Jordan	A	<i>Pawtucket</i>
Charles Bird Keach	P	<i>Providence</i>

NAME		RESIDENCE
Solon Chester Kelley, Jr.	A	<i>Stamford, Ct.</i>
Paul Homer Keough	P	<i>New York, N. Y.</i>
Edwin Munroe Knights	S	<i>Riverside</i>
Chauncey Bemis Ladd	P	<i>St. Louis, Mo.</i>
Wilfred Joseph La Pierre	P	<i>Griswoldville, Mass.</i>
James William Leighton	A	<i>Phenix</i>
Victor Le Valley	P	<i>Long Branch, N. J.</i>
Henry David Levine	A	<i>Waterford, Ct.</i>
Julius Louis Levine	P	<i>Roxbury, Mass.</i>
Robert Gustav Daniel Ljunggren	A	<i>West New Brighton, N. Y.</i>
Melville Morris Lowe	P	<i>Essex, Mass.</i>
Eliot Horton Luther	A	<i>Providence</i>
Morton Perry McLeod	P	<i>Lafayette</i>
Hugh Wilson MacNair	P	<i>Houghton, Mich.</i>
Steward Tilton MacNeill	S	<i>West Newton, Mass.</i>
John Thomas McQuaid	A	<i>Pawtucket</i>
John Henry Maginn	A	<i>Providence</i>
Howard Bennett Marble	P	<i>Plainville, Mass.</i>
Alfred Joseph Marron	A	<i>Media, Pa.</i>
Eric Albert Monroe	P	<i>Bristol, Ct.</i>
Samuel Morein	S	<i>Providence</i>
James Patrick Murphy	P	<i>New Bedford, Mass.</i>
Walter Vincent Murphy	S	<i>New Britain, Ct.</i>
Albert Reginald Nichols	P	<i>Auburn</i>
George Arnold Northup	A	<i>Peace Dale</i>
Isaac Yale Olch	P	<i>Providence</i>
Robert Clyde Padley	S	<i>Providence</i>
Earl Moore Pearce	A	<i>Providence</i>
Reginald March Pease	S	<i>Providence</i>
Charles Peckerman	S	<i>Providence</i>
Everett Granville Perkins	S	<i>Newburyport, Mass.</i>
Leslie Lovell Perry	P	<i>Providence</i>
John George Peterson	P	<i>Providence</i>
James Stephen Powers	A	<i>Providence</i>
Lester Ware Preston	S	<i>Providence</i>
Howard Hepson Quinham	S	<i>Lonsdale</i>
William Harris Reese	A	<i>Parsons, Pa.</i>
Gerald Reynar	P	<i>Boonton, N. J.</i>
John Wesley Rhoads	P	<i>Edge Hill, Pa.</i>
John Greene Rice	P	<i>Pawtucket</i>
Lawrence Henry Rich	P	<i>Amsterdam, N. Y.</i>
Hartley Forest Roberts	A	<i>Mexico, Me.</i>
Henry Carlton Robertson	S	<i>Lakewood, N. J.</i>

NAME		RESIDENCE
Ralph Lester Robinson	S	<i>Providence</i>
Harold William Ryley	A	<i>New London, Ct.</i>
Rust Scott	P	<i>Rutland, Vt.</i>
Harvey Sheahan	A	<i>Wickford</i>
Edmund Lawrence Sheridan	P	<i>Providence</i>
Irving Gordon Smith	P	<i>Leominster, Mass.</i>
Thomas Bryant Smith	A	<i>Long Branch, N. J.</i>
Daniel Parkhurst Spalding	A	<i>Providence</i>
Richard Hobart Spear	P	<i>Burlington, Vt.</i>
Walter Kenneth Sprague	P	<i>North East, Pa.</i>
James Cunningham Springer	A	<i>Providence</i>
Robert Taft Staples	A	<i>Burlington, Vt.</i>
Walter Joseph Stein	P	<i>Chicago, Ill.</i>
Leslie Edmund Stone	P	<i>Providence</i>
John Storer, Jr.	P	<i>Providence</i>
Joseph Woodbury Strout, Jr.	S	<i>Rehoboth, Mass.</i>
Paul Nicholas Swaffield	P	<i>Lawrence, Mass.</i>
Henry Eldridge Sweet	S	<i>Providence</i>
Leslie Ray Taber	P	<i>Auburn, N. Y.</i>
Egbert Foster Tetley	P	<i>North Chelmsford, Mass.</i>
Elliott Ladd Thurston	P	<i>Providence</i>
Herbert Tuttle Tinker	P	<i>Nashua, N. H.</i>
Gustav Henry Tobelman	S	<i>Newark, N. J.</i>
Russell Lyman Tomlinson	S	<i>Providence</i>
David Newell Torrance	P	<i>Derby, Ct.</i>
Frank Baker Tuckerman	A	<i>Media, Pa.</i>
Richard Henry Van Horn	S	<i>Lambertville, N. J.</i>
Bissel La Monte Wade	P	<i>Leroy, N. Y.</i>
William Wallace Wade	A	<i>Trenton, Tenn.</i>
Raymond Joseph Walsh	A	<i>Providence</i>
Raymond Belcher Ward	P	<i>Newark, N. J.</i>
Stanley Ayrault Ward	P	<i>Newport</i>
Albert Estes Wätjen	S	<i>Warren</i>
Herman William Wätjen, Jr.	A	<i>Warren</i>
Robert McKay Watson	S	<i>Pawtucket</i>
William Leroy Wedemeyer	S	<i>Lakewood, N. J.</i>
Foster Beal Whitehead	A	<i>Palmyra, N. Y.</i>
Jaspar Wight	P	<i>Lakewood, N. J.</i>
Rouse Babcock Wilcox	A	<i>Stonington, Ct.</i>
Frank Valentine Willard	S	<i>Chicago, Ill.</i>
Edward Thomas Williams	P	<i>New York, N. Y.</i>
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Howard Dwight Williams	P	<i>Rockland, Mass.</i>

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Roger Williams	P	<i>Central Falls</i>
George Albro Williamson	S	<i>Newark, N. J.</i>
Clarence Henry Woodmansee	A	<i>Providence</i>
Carlos Greeley Wright	S	<i>Providence</i>
Benjamin Horace Yerxa	P	<i>New London, N. H.</i>

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Walter Adler	A	<i>Providence</i>
Elis Petrus Ahlquist	S	<i>Wilcox, Pa.</i>
James Duncan Allan	S	<i>Gleasondale, Mass.</i>
Howard Horace Allsopp	P	<i>Newark, N. J.</i>
Robert Johnson Ames	P	<i>Cortland, N. Y.</i>
Howard Bartholomew Arnold	A	<i>Providence</i>
Charles Walter Arthur	P	<i>Manchester, N. H.</i>
Harold Adams Backus	P	<i>Providence</i>
Raymond Francis Bagley	P	<i>Providence</i>
Octave Peterson Beauvais	S	<i>Boston, Mass.</i>
Richard Clark Belden	P	<i>Hartford, Ct.</i>
James Van Benschoten Bennett	A	<i>Centredale</i>
Roy Wilmot Benton	P	<i>New Bedford, Mass.</i>
Roswell Bosworth	A	<i>Bristol</i>
Vernon Aubrey Bowman	A	<i>Springfield, Mass.</i>
David Bromson	P	<i>Providence</i>
Norman Bromson	P	<i>Providence</i>
Frederick Billings Brooks	P	<i>St. Albans, Vt.</i>
Franklin Coolidge Brooks	A	<i>Colorado Springs, Col.</i>
Edward Choate Brown	A	<i>Marblehead, Mass.</i>
Kenneth Livingston Burdon	P	<i>Providence</i>
Edward James Butler	P	<i>Westerly</i>
John Colvin Butner, Jr.	P	<i>Winthrop, Mass.</i>
Herbert Butterfield	P	<i>Providence</i>
Peter Leo Cannon	A	<i>Providence</i>
Armand Laurier Caron	A	<i>Southbridge, Mass.</i>
John Sharpe Chafee	A	<i>Providence</i>
Albert Harvey Chamberlin	S	<i>Abington, Mass.</i>
Christopher Allen Champlin	P	<i>Block Island</i>
William Watts Chaplin	A	<i>New York, N. Y.</i>
Herbert Winfield Chappell	A	<i>Weekapaug</i>
Reuben Rogers Chase, Jr.	S	<i>Marion, Mass.</i>
Winn Willard Chase	P	<i>Fall River, Mass.</i>
Leslie Russell Clark	P	<i>Detroit, Mich.</i>
Eben Stevens Cleveland	P	<i>Webster, Mass.</i>

NAME		RESIDENCE
Jacob Cohen	S	<i>Providence</i>
Dwight Townsend Colley	P	<i>Nayatt</i>
Harold Everett Collins	P	<i>Providence</i>
William Henry Collins	P	<i>Bondsville, Mass.</i>
Earl Thompson Cox	P	<i>Providence</i>
Lester Ray Craig	A	<i>Danielson, Ct.</i>
Henry Carl Cramer, Jr.	S	<i>East Hartford, Ct.</i>
Paul Schröder Crandall	S	<i>Groton, Ct.</i>
John Ivan Crouch	S	<i>Edgewood</i>
James Albert Crumley, Jr.	P	<i>Warwick</i>
Raymond Edward Cuffe	A	<i>Providence</i>
Matthew Joseph Cummings, Jr.	A	<i>Providence</i>
Lemuel Florence Patterson Curry	P	<i>Willoughby, Ohio</i>
Roger Dering	P	<i>Chicago, Ill.</i>
Francis Colt de Wolf	A	<i>Bristol</i>
Albert Edwin Dillingham	P	<i>Saxtons River, Vt.</i>
Edward Judson Dilts	P	<i>Lowell, Mass.</i>
Martin Joseph Donovan	P	<i>Salem, Mass.</i>
John Marshall Dowe	P	<i>Danielson, Ct.</i>
Chester Miller Downing	P	<i>Providence</i>
Charles Henry Eden, Jr.	P	<i>Providence</i>
Charles Gurney Edwards	A	<i>Providence</i>
Irwin Correll Elmer	P	<i>Providence</i>
William Ely, Jr.	P	<i>Providence</i>
Clifton Roy Entwistle	A	<i>Providence</i>
Daniel Hoffman Erickson, Jr.	P	<i>Leesburg, N. J.</i>
Raymond Earle Farnsworth	P	<i>Ayer, Mass.</i>
Mark Farnum	P	<i>Georgiaville</i>
Floyd Cerelle Fay, Jr.	A	<i>Franklinville, N. Y.</i>
William Miller Fay	A	<i>Franklinville, N. Y.</i>
Cyrus Glenn Flanders	A	<i>Providence</i>
Lawrence Gustav Flick	P	<i>Saylesville</i>
Harold Francis Fogerty	S	<i>Providence</i>
Emery Milton Foster	P	<i>Watertown, Mass.</i>
Stanley Jardine Fraser	A	<i>Providence</i>
Albert Moore Freeman	P	<i>Providence</i>
William McKinley Gafafer	P	<i>Jersey City, N. J.</i>
Sidney Russell Gair	P	<i>Oak Park, Ill.</i>
Francis Vincent Garside	A	<i>Providence</i>
Paul Francis Giles	P	<i>Leroy, N. Y.</i>
William Alfred Goggin	P	<i>Manchester, N. H.</i>
Harry Ralph Gordon	P	<i>East Cleveland, Ohio.</i>
Attmore Edwin Griffin	P	<i>Wakefield</i>

NAME		RESIDENCE
Vincent Bernard Hackett	P	<i>Providence</i>
Frank Charles Haddleton	P	<i>Providence</i>
Thomas Watkins Hall	P	<i>North Providence</i>
Burton Francis Harrington	P	<i>Providence</i>
Ernest Clifton Hathaway	S	<i>North Tiverton</i>
George Julius Heidt	A	<i>New York, N. Y.</i>
Williams Horan Higgins	A	<i>Providence</i>
Mason Cole Hill	S	<i>Providence</i>
Harvey Scott Hincks	P	<i>Providence</i>
Alfred Rounds Holden	S	<i>Providence</i>
Wheaton Grenville Hudson	P	<i>Hartford, Ct.</i>
Henry Olsen Huggenvig	P	<i>New York, N. Y.</i>
George Clifton Hull	P	<i>East Providence</i>
Malcolm Cleveland Hylan	P	<i>Medfield, Mass.</i>
John Francis Isaac	P	<i>Ballston Spa, N. Y.</i>
Horace Carpenter Jeffers	A	<i>Central Falls</i>
Manuel James Jemail	P	<i>Newport</i>
Bert Abraham Johnson	S	<i>Edgewood</i>
Thomas Calvin Jones, Jr.	A	<i>McKeesport, Pa.</i>
Morrill Phillips Josselyn	A	<i>Bridgewater, Mass.</i>
Harry Waldemere Kallstrom	A	<i>Bridgeport, Ct.</i>
Norman Luther Keller	P	<i>Bedminster, Pa.</i>
Ronald MacDonald Kimball	A	<i>Norwich, Ct.</i>
Joseph Anthony King	P	<i>Providence</i>
Louis Kramer	A	<i>Providence</i>
Chauncy Taft Langdon	A	<i>Providence</i>
Henry Coe Lanpher	P	<i>Glen Ridge, N. J.</i>
Carroll Burton Larrabee	P	<i>Bradford, Pa.</i>
John Richard Leeming, Jr.	P	<i>Fall River, Mass.</i>
Wardwell Coles Leonard	P	<i>Providence</i>
Clarence Eugene Lightfoot	A	<i>Brooklyn, N. Y.</i>
Leroy Dexter Lincoln	S	<i>Ashton</i>
Arthur Bancroft Lloyd	P	<i>Providence</i>
Charles William McClellan	P	<i>Fall River, Mass.</i>
James Irving McDowell	A	<i>Providence</i>
Walter Raymond McGinn	A	<i>Providence</i>
Thomas Aloysius McGuire	A	<i>Whitinsville, Mass.</i>
Thomas McIntyre, Jr.	A	<i>Pawtucket</i>
Harold Allen McKay	P	<i>Haverhill, Mass.</i>
Russell Elwood McKenzie	P	<i>Foxboro, Mass.</i>
Kenneth Brodie MacLeod	P	<i>Providence</i>
William Anthony Maguire	A	<i>Providence</i>
William Chester Malenfant	S	<i>Providence</i>

NAME		RESIDENCE
Vernon Charles Manley	A	<i>Ludlow, Vt.</i>
Henry Russell Mannex	P	<i>Quincy, Mass.</i>
Julian Brewer Marshall	A	<i>Ashton</i>
Francis Metcalf	P	<i>Franklin, Mass.</i>
Alan Wolfram Milcke	S	<i>Wallingford, Ct.</i>
Allison Miller	P	<i>New York, N. Y.</i>
John Gordon Moriarty	P	<i>Woodhaven, N. Y.</i>
Maurice Moskol	S	<i>Providence</i>
Wesley Herbert Mott	P	<i>Foxboro, Mass.</i>
Clifton Irving Munroe	A	<i>Providence</i>
William Allenwood Murray	A	<i>Hardwick, Vt.</i>
Waldon Charles Nason	S	<i>Providence</i>
Philip Ezra Newhall	A	<i>Cumberland Mills, Me.</i>
Leonard Hulit Norcross	P	<i>Hightstown, N. J.</i>
John Champlin Noyes	S	<i>Norwich, Ct.</i>
James Edward Paige	A	<i>Peabody, Mass.</i>
Gordon Lancaster Parker	P	<i>Providence</i>
Raymond Henry Parker	P	<i>Providence</i>
Francis Roberts Parsons	S	<i>Providence</i>
Arthur Callistus Patrick	S	<i>Provincetown, Mass.</i>
Albert Edward Pearson	P	<i>Edgewood</i>
Edward Malcolm Phillips	P	<i>Taunton, Mass.</i>
Wilfred Pickles	A	<i>Providence</i>
Clarence Crombie Po	A	<i>Bassein, Burma, India</i>
Albert Sanger Pratt	A	<i>Pomfret Centre, Ct.</i>
Lyle Meton Prouse	A	<i>Fayetteville, N. C.</i>
Dana Rice	A	<i>Providence</i>
Wilbur Lamprey Rice	P	<i>Providence</i>
Charles Read Richardson	S	<i>North Adams, Mass.</i>
John Brown Riddock	A	<i>New Bedford, Mass.</i>
William John Ross	A	<i>Providence</i>
Arthur Rothstein	P	<i>New York, N. Y.</i>
George Clemison Scott	A	<i>Newport</i>
Rodney Hobbs Scott	P	<i>Uxbridge, Mass.</i>
Dudley Richardson Sibley	P	<i>Providence</i>
Jacob Theodore Sidkowsky	A	<i>Providence</i>
Edward Faville Siff	P	<i>St. Louis, Mo.</i>
Samuel Isadore Silverman	A	<i>Providence</i>
William Eyre Sisson	A	<i>Providence</i>
Benjamin Howard Slade	S	<i>Providence</i>
Isaac Gallup Smith	S	<i>Westerly</i>
Paul Marvell Smith	P	<i>Columbus, Ohio.</i>
Warren Mayhew Sniffin	P	<i>Pittsburgh, Pa.</i>

NAME		RESIDENCE
Frank Casper Speck, Jr.	P	<i>Auburn</i>
Harold Rosenfield Strauss	P	<i>Brookline, Mass.</i>
Charles Arthur Stuart	P	<i>Plattsburg, N. Y.</i>
George Rodger Sturtevant	S	<i>Attleboro, Mass.</i>
Alfred James Sullivan	P	<i>Fall River, Mass.</i>
Earl Howard Sutton	P	<i>Providence</i>
John Sweetland	P	<i>Providence</i>
Pierre Everett Teets	P	<i>Tuckahoe, N. Y.</i>
Harleigh Van Slyck Tingley	S	<i>Bristol</i>
Earl Hollier Tomlin	A	<i>Syracuse, N. Y.</i>
Frederick Neale Tompkins	S	<i>Pawtucket</i>
Eldred Malcolm Van Riper	S	<i>Bernardsville, N. J.</i>
George Wheaton Carr Vaughan	A	<i>Providence</i>
Charles Henry Vehese	S	<i>Apponaug</i>
Charles Berry Waddell, Jr.	P	<i>Foxboro, Mass.</i>
William Lewis Waddell	P	<i>Foxboro, Mass.</i>
Ralph DeWitt Webb	P	<i>Providence</i>
Edward Clarence Welch	P	<i>Lynn, Mass.</i>
Raymond Brooks West	P	<i>Fall River, Mass.</i>
Harold Fairfield Coit Wilcox	P	<i>Tiverton</i>
Raymond Louis Wilder	S	<i>Palmer, Mass.</i>
Hiram Herbert Williams	A	<i>Putnam, Ct.</i>
James Harold Williams	A	<i>Providence</i>
John Roles Williams	P	<i>Baltimore, Md.</i>
James Walter Wilson	P	<i>Manchester, N. H.</i>
Herman Aaron Winkler	P	<i>Providence</i>
Harold Page Wright	A	<i>Providence</i>
George Henry Yereck	S	<i>Providence</i>
Cecil George Stratton Young	S	<i>Foxboro, Mass.</i>
William Howard Young	S	<i>Providence</i>

SPECIAL STUDENTS

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Richard Frederick Aust	<i>Providence</i>
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Fu-Sun Bien	<i>Shanghai, China</i>
Alfred Cookman Blake	<i>East Providence</i>
Alfred John Brassard	<i>Pawtucket</i>
Henry Dewees Cady	<i>Warren</i>
Angelo Americo Caldarone	<i>Providence</i>
Silvestro Cappiello	<i>Providence</i>
Richard Burton Carter	<i>Richmond Hill, N. Y.</i>

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Percy Gordon Cliff	<i>West Somerville, Mass.</i>
Neshan Desdegulian	<i>Providence</i>
William Barbour Farnsworth	<i>Providence</i>
Paul Joseph Grimes	<i>Pawtucket</i>
Irving Turgle Gumb	<i>Lowell, Mass.</i>
Herbert Gordon Higgins	<i>Providence</i>
Ephrem Adelard Hudon	<i>Providence</i>
George Maurice Ingalls	<i>Providence</i>
William Joel Jones	<i>Providence</i>
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Henry Blaine Kulp	<i>Pottstown, Pa.</i>
Joseph Henry Moore	<i>Providence</i>
James Russell Murphy	<i>Providence</i>
Kenneth Safford Parker	<i>Janesville, Wis.</i>
Harry Ellsworth Rahming	<i>New Bedford, Mass.</i>
Walton Spencer Redfield	<i>West Newton, Mass.</i>
Wayland Wilbur Rice	<i>Providence</i>
Paul Curtis Richards	<i>Goffstown, N. H.</i>
Charles Edward Russell	<i>Lowell, Mass.</i>
Joseph Eugene St. Laurent	<i>Woonsocket</i>
Philip Raymond Sisson	<i>Providence</i>
William Simpson Spatcher	<i>Attleboro, Mass.</i>
William Martin Tilton	<i>Dalton, Mass.</i>
Edwin Ernest Wilde	<i>Providence</i>
Arthur Henry Wilkinson, Jr.	<i>New London, Ct.</i>
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† On leave of absence during the academic year 1914-15.

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Newport Rogers Professor of Chemistry

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JAMES MARVIN MOTLEY, PH.D.

Associate Professor of Economics

† On leave of absence during the academic year 1914-15.

CHARLES HERMAN HUNKINS, DR. UNIV. PARIS

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FLORENCE HARRIS DANIELSON, A.M.

Instructor in Physiology and Household Economics in the Women's College

† On leave of absence during the academic year 1914-15.

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EXECUTIVE COMMITTEE

President FAUNCE, *Dean* KING, ROBERT HALE IVES GODDARD, *Rev.* HENRY
MELVILLE KING, STEPHEN OLNEY METCALF.

ADVISORY COUNCIL

Miss SARAH E. DOYLE, *Miss* AMELIA S. KNIGHT, *Mrs.* GUSTAV RADEKE, *Mrs.*
CARL BARUS, *Mrs.* FRANCIS G. ALLINSON, *Mrs.* WILLIAM T. HASTINGS, *Miss*
MARION S. COLE.

COURSES OF INSTRUCTION

C*COURSES* designated by a † are given at the University; women are admitted to them on the recommendation of the Dean of the Women's College. Women are also admitted to certain other University courses not announced here, with the special permission of the department and with the consent of the Dean of the Women's College. In courses designated by a * a final mark covering the work of the course as a whole is given at the end of the course, the mark given at the end of the first semester being regarded as temporary.

With the exception of *Biology 1, 2, Greek Literature and History 20, History 13, 14, and Roman Literature and History 3*, courses offered to women are identical with corresponding courses offered to men. Detailed information may be found on pages 71-148. The officers of instruction are those conducting courses for men also, with the addition of:

LIDA SHAW KING, A.M., LITT.D., LL.D., *Professor of Classical Literature and Archaeology*

FLORENCE HARRIS DANIELSON, A.M., *Instructor in Biology*

NORMAN SCOTT BRIEN GRAS, PH.D., *Lecturer in History*

ART

1, 2. *History of Art from Antiquity through the Renaissance*
Professor POLAND.

Tu., Wed., Sat., at 9.25.

[3, 4. *Modern Art, and Theory and Criticism of the Fine Arts*]
Not offered in 1914-15.

15,* 16.* *Freehand Drawing*

Given at the Rhode Island School of Design. Hours to be arranged with the Director.

17,* 18.* *Advanced Drawing*

Given at the Rhode Island School of Design. *Mon., Tu., Wed., at 2.*

ASTRONOMY

1, 2. *General Course*

Mr. CURRIER.

Wed., Fri., Sat., at 11.25.

[7, 8.† *Advanced Astronomy*]

Not offered in 1914-15.

BIBLICAL LITERATURE AND HISTORY

1, 2.† *Elementary Hebrew*

[11, 12.† *Gospels and Epistles*]

Not offered in 1914-15.

13, 14.† *Acts and Pauline Epistles*

15, 16. *Old Testament Literature and History*

[17, 18. *New Testament Literature and History*]

Not offered in 1914-15.

19, 20. *The English Bible as Literature*

Professor FOWLER.

Tu., Wed., Sat., at 9.25.

21, 22.*† *Biblical Seminary*

30.† *History of Religion*

BIOLOGY

1, 2. *General Biology*

Miss DANIELSON.

Wed., Fri., Sat., at 11.25.

3, 4. *Comparative Anatomy of Vertebrates*

Professor WALTER.

Tu., Fri., Sat., at 10.25.

5, 6.† *Anatomy of the Nervous System*

7, 8.† *Embryology and Histology*

9, 10.† *Advanced Histology and Pathology*

11, 12.† *General Physiology*

13, 14.† *Chemical Physiology*

16.† *Bacteriology*

17, 18.† *Advanced Bacteriology*

[20. *Ornithology*]

Not offered in 1914–1915.

[24.† *Physiology*]

Not offered in 1914–15.

BOTANY

[1, 2. *General Course*]

Not offered in 1914–15.

3, 4.† *Physiological Anatomy*

5, 6.† *Comparative Morphology and Phylogeny*

7, 8.† *Special Course*

11, 12.† *Physiology*

CHEMISTRY

1, 2. *Descriptive Chemistry*

Professor BIGELOW and Mr. FOOTE.

Tu., Th., Sat., at 12.25.

3, 4.† *Qualitative and Quantitative Analysis*

5, 6.† *Quantitative Analysis, Advanced Course*

7, 8.† *Organic Chemistry*

10.† *Assaying*

12. † *Organic Dyes*[15, 16. † *Physical Chemistry*]

Not offered in 1914-15.

[20. † *Inorganic Chemistry, Advanced Course*]

Not offered in 1914-15.

21, 22. † *Organic Preparations, Advanced Course*23, 24. † *Inorganic Preparations, Advanced Course*27, 28. † *Conference on Special Topics in Chemistry*29, 30. † *Industrial Chemistry and Research*

ECONOMICS †

1. *Elementary Economics*

Professor MOTLEY.

First semester. Followed in the second semester by Social and Political Science 1. *Tu., Th., Sat., at 12.25.*5, 6. † *Money and Banking*8. *Socialism and Allied Movements*

Professor MOTLEY.

Second semester. *Mon., Th., Fri., at 9.25.*[10. † *Tariff, Reciprocity, and Shipping Subsidies*]

Not offered in 1914-15.

11, 12. † *Public Finance and Financial History*13. † *Statistics*14. † *Accounting*15. † *Trade and Transportation*16. † *Corporations and Corporation Finance*

† Courses in Economics marked with a † are open to undergraduates if elected by three or more students.

21, 22. † *Investigation of Special Topics*

23, 24. † *Economic Seminary*

EDUCATION

2. *Principles of Education*

Professor JACOBS.

First semester. *Mon., Wed., Th., at 10.25.*

1. *History of Education*

Professor JACOBS.

Second semester. *Mon., Wed., Th., at 10.25.*

3. *Psychology of Education*

Professor COLVIN.

First semester. *Mon., Th., Fri., at 9.25.*

4. *Practical Introduction to Teaching*

Professor COLVIN.

Second semester. *Mon., Th., Fri., at 9.25.*

ENGLISH

1. *Rhetoric and Composition*

Professor HASTINGS, Messrs. WILLIAMS, CLOUGH, and FORWARD.

First semester. *1st div., Mon., Th., Fri., at 9.25; 2d div., Tu., Wed., Sat., at 9.25.*

2. *Rhetoric and Composition*

Professor HASTINGS, Messrs. WILLIAMS, CLOUGH, and FORWARD.

Second semester. *1st div., Mon., Th., Fri., at 9.25; 2d div., Mon., Tu., Th., at 3.25.*

48. *English Literature from the Beginning to 1700*

Professor BENEDICT.

Second semester. *Mon., Th., Fri., at 9.25.*

49. *English Literature from 1700 to 1900*

Professor BENEDICT.

First semester. *Mon., Th., Fri., at 9.25.*

[5, 6. *English Composition, Advanced Course*]

Not offered in 1914-15.

7, 8. *Argumentative Composition*

Professor HASTINGS.

Wed., Fri., Sat., at 11.25.

11, 12. *Public Speaking*

Professor CROSBY.

Tu., Fri., Sat., at 10.25.

15, 16.† *Old English*

[17, 18. *Chaucer*]

Not offered in 1914-15.

[23, 24. *The Modern English Drama*]

Not offered in 1914-15.

[25, 26. *Shakspere*]

Not offered in 1914-15.

27, 28. *Shakspere*

Professor POTTER.

Tu., Wed., Sat., at 9.25.

29. *English Literature, exclusive of the Drama, from 1558 to 1603*

Professor BRONSON.

First semester. Tu., Th., Sat., at 12.25.

30. *English Literature, exclusive of the Drama, from 1603 to 1660*

Professor BRONSON.

Second semester. Tu., Th., Sat., at 12.25.

[31, 32. *English Literature from 1660 to 1798*]

Not offered in 1914-15.

[35. *English Literature from 1798 to 1832, Poetry*]

Not offered in 1914-15.

[36. *English Literature from 1798 to 1832, Prose*]

Not offered in 1914-15.

[37. *English Literature from 1832 to 1892, Prose*]

Not offered in 1914-15.

[38. *English Literature from 1832 to 1892, Poetry*]

Not offered in 1914-15.

33, 34. *The English Novel*

Mr. FOLLETT.

Wed., Fri., Sat., at 11.25.

[39, 40. *American Literature*]

Not offered in 1914-15.

[42. *Contemporary English and American Literature*]

Not offered in 1914-15.

43, 44. † *Seminary in English Literature*

Professor BENEDICT.

GEOLOGY

1. *General Geology*

Professor BROWN.

First semester. Wed., Fri., Sat., at 11.25.

6. *Economic Geography and Conservation*

Professor BROWN.

Second semester. Wed., Fri., Sat., at 11.25.

[9, 10. † *Mineralogy and Petrography*]

Not offered in 1914-15.

11, 12. † *Research in Geology and Geography*

GERMANIC LANGUAGES AND LITERATURES

1, 2. *Elementary Course, First Year*

Professor MITCHELL.

Mon., Wed., Fri., at 12.25.

3, 4. *Elementary Course, Second Year*

Professor MITCHELL.

Mon., Tu., Th., at 11.25.

5, 6. *Intermediate Course*

Mr. KEENAN.

Mon., Wed., Fri., at 12.25.

7, 8. *Advanced Course in Standard Authors, Classical and Modern*

Dr. RAND.

Mon., Wed., Fri., at 12.25.

9, 10.† *Modern Prose*[11, 12. *German Lyrical Poetry*]

Not offered in 1914-15.

15, 16. *The German Drama of the Nineteenth Century*

Professor VON KLENZE.

Mon., Wed., Fri., at 12.25.

[17, 18.† *Lessing and Schiller*]

Not offered in 1914-15.

23, 24.† *Goethe: A Study of His Life and Works*[25, 26.† *Outline History of German Literature*]

Not offered in 1914-15.

[27, 28.† *German Literature in the Nineteenth Century*]

Not offered in 1914-15.

31.† *Gothic*32.† *Old High German*[33.† *Old Norse*]

Not offered in 1914-15.

[34.† *Germanic Mythology*]

Not offered in 1914-15.

[35, 36.† *Middle High German*]

Not offered in 1914-15.

GREEK LITERATURE AND HISTORY

[A, B. *Elementary Course*]

Not offered in 1914-15.

1. *Homer and the Greek Anthology*

Professor MANATT.

Mon., Tu., Th., at 11.25.

2. *Plato, Lysias, and Aristophanes*

Professor ALLINSON.

Mon., Tu., Th., at 11.25.

3. *Lucian and Sophocles*

Professor ALLINSON.

First semester. Mon., Wed., Fri., at 12.25.

4. *The Historians*

Professor MANATT.

Second semester. Mon., Wed., Fri., at 12.25.

[5. *Epic Poetry*]

Not offered in 1914-15.

[6. *The Drama*]

Not offered in 1914-15.

[7. *Lyric and Pastoral Poetry*]

Not offered in 1914-15.

[8. *Plato, Aristotle, and Aeschylus*]

Not offered in 1914-15.

[9. *The Attic Orators*]

Not offered in 1914-15.

[10. *Lucian and Pausanias*]

Not offered in 1914-15.

[12. *Greek Composition*]

Not offered in 1914-15.

15. *Greek Civilization*

Professor ALLINSON.

Second semester. *Tu., Wed., Sat., at 9.25.*17, 18. † *Greek Seminary*20. *Introduction to Greek Archaeology*

Outline of the remains of the earliest Greek civilization; an introductory study of Greek vases, coins, small bronzes, and terra-cotta figurines. Intended to give a general survey of these sources for Greek history and life. Illustrated lectures; collateral reading. Professor KING.

Three hours. Second semester. Elective for students who have completed one course in Latin or Greek. *Mon., Th., Fri., at 9.25.*

HISTORY

1, 2. *Medieval and Modern History of Europe*

Professor COLLIER.

*Mon., Tu., Th., at 11.25.*3. † *History of Christianity: Early and Medieval Period*4. † *History of Christianity: From the Reformation to the present*[5. *The French Revolution and the Napoleonic Era*]

Not offered in 1914-15.

[6. *Europe since 1815*]

Not offered in 1914-15.

7. *English History to 1603*

Professor COLLIER.

First semester. *Mon., Tu., Fri., at 2.25.*8. *English History, 1603 to the present*

Professor COLLIER.

Second semester. *Mon., Tu., Fr., at 2.25.*11, 12. † *Seminary in European History*

13, 14. *American History*

Dr. GRAS.

*Mon., Wed., Fri., at 12.25.*15, 16. † *Constitutional and Political History of the United States*17, 18. † *Seminary in American History*[19. † *Social History of America to 1787*]

Not offered in 1914-15.

[20. † *History of the United States since 1860*]

Not offered in 1914-15.

INDO-EUROPEAN PHILOLOGY

4. † *Seminary in Comparative Philology*

MATHEMATICS

2. *Plane Trigonometry*

Professors MANNING and ARCHIBALD.

First semester. *Tu., Fri., Sat., at 10.25.*1. *Solid and Spherical Geometry*

Professor RICHARDSON and Dr. ALLEN.

Second semester. *Tu., Fri., Sat., at 10.25.*3. *Algebra*

Professor MANNING.

Second semester. *Mon., Wed., Fri., at 12.25.*[4. *Algebra*]

Not offered in 1914-15.

5. *Plane Analytic Geometry*

Professor RICHARDSON.

First semester. *Mon., Wed., Th., at 10.25.*6. *Analytic Geometry and Differential Calculus*

Professor ARCHIBALD.

Second semester. *Mon., Wed., Th., at 10.25.*

7, 8. † *Differential and Integral Calculus*

9. † *Differential Equations*

[12. † *Modern Analytic Geometry*]

Not offered in 1914-15.

[21, 22. † *Function Theory of a Complex Variable*]

Not offered in 1914-15.

25, 26. † *Advanced Algebra*

27, 28. † *Projective Geometry*

[29, 30. † *Function Theory of a Real Variable*]

Not offered in 1914-15.

[31, 32. † *Applications of Calculus to Geometry*]

Not offered in 1914-15.

[41, 42. † *Fundamental Problems of Algebra*]

Not offered in 1914-15.

43, 44. *Foundations, Methods, and Problems of Geometry*

Professor ARCHIBALD.

Mon., Wed., Fri., at 12.25.

MUSIC

1, 2. *The Appreciation of Music*

Mr. WILDE.

Mon., Tu., Th., at 11.25.

PHILOSOPHY

1, 2. *Logic*

Professor JONES.

Tu., Th., Sat., at 12.25.

3. *Psychology*

Professor DELABARRE.

Through the year. Tu., Fri., Sat., at 10.25.

4. *Ethics**Professor EVERETT.*Second semester. *Mon., Wed., Th., at 10.25.*5, 6. † *Psychology, Intermediate Course*[7, 8. *History of Philosophy*]

Not offered in 1914-15.

9. *Philosophy of Religion**Professor EVERETT.*First semester. *Mon., Wed., Th., at 10.25.*10. † *Applications of Psychology*11, 12. † *Experimental Psychology, Introductory Laboratory Course*13, 14. † *Current Tendencies in Philosophy*17, 18. † *Psychology, Advanced Course*19, 20. † *Experimental Psychology, Advanced Laboratory Course*[21, 22. † *Advanced Ethics*]

Not offered in 1914-15.

23, 24. † *Philosophical Seminary*

PHYSICS

1, 2. *Elementary Physics**Professor BARUS.**Mon., Tu., Th., at 11.25.*3, 4. † *Elementary Physics, continued*5, 6. † *Experimental Physics*7, 8. † *Mathematical Treatment of Dynamical Problems*9, 10. † *Mathematical Theory of Electricity and Magnetism*11, 12. † *Advanced Laboratory Course*

15, 16. † *Physics, Advanced Course*

23, 24. † *Precision Measurements in Photometry, Electricity, and Magnetism*

25, 26. † *Radiation, Optics, and Heat*

ROMAN LITERATURE AND HISTORY

1. *Livy*

Professors HARKNESS and GREENE.

First semester. *Mon., Tu., Th., at 2.25.*

2. *Cicero's Letters*

Professor GREENE.

Second semester. *Mon., Tu., Th., at 2.25.*

3. *Catullus and Virgil*

Professor KING.

First semester. *Tu., Fri., Sat., at 10.25.*

4. *Horace's Satires and Epistles, Juvenal*

Professor HARKNESS.

Second semester. *Tu., Fri., Sat., at 10.25.*

[5, 6. *Latin Poetry*]

Not offered in 1914-15.

7, 8. *Latin Prose*

Professors HARKNESS and GREENE.

Tu., Th., Sat., at 12.25.

11, 12. *Latin Composition*

Professor GREENE.

Tu. at 2.25.

16. *Roman Civilization*

Professor GREENE.

First semester. *Mon., Tu., Th., at 11.25.*

ROMANCE LANGUAGES AND LITERATURES

1, 2. *Elementary French, First Year*

Professor CROWELL.

*Mon., Wed., Th., at 10.25.*5, 6. *Intermediate French*

Professor HUNKINS.

*Mon., Wed., Th., at 10.25.*7, 8. *Advanced French*

Professor JOHNSON.

Tu., Wed., Sat., at 9.25.[9, 10.† *The Realistic School*]

Not offered in 1914-15.

11, 12. *The Romantic School*

Professor LANGDON.

Tu., Wed., Sat., at 9.25.[13, 14.† *The Classical School*]

Not offered in 1914-15.

15, 16.† *Modern Spanish*17, 18. *Modern Italian*

Professor LANGDON.

Wed., Fri., Sat., at 11.25.[19, 20. *Dante in English*]

Not offered in 1914-15.

[21, 22.† *Spanish Language and Literature*]

Not offered in 1914-15.

23, 24. *Practice in Writing and Speaking French*

Professor JOHNSON.

Mon., Wed., Th., at 10.25.

SOCIAL AND POLITICAL SCIENCE

SOCIAL SCIENCE

1. *Elementary Social Science*

Professor DEALEY.

Second semester. *Tu., Th., Sat., at 12.25.*

[3, 4. *Social Problems and Conditions*]

Not offered in 1914-15.

7. † *Sociology as a Science*8. † *Sociology in its Applications*11, 12. † *Seminary in Sociology*13, 14. † *Training Course for Social Service*

POLITICAL SCIENCE

[1. *Elementary Political Science*]

Not offered in 1914-15.

3. *Government and Politics of the United States*

Professor DUNNING.

First semester. *Tu., Th., Sat., at 12.25.*

HYGIENE AND PHYSICAL EDUCATION

M. ELIZABETH BATES, *Instructor*

From Thanksgiving until the Spring recess, first and second year students are required to attend classes in the gymnasium three times a week. Seniors and Juniors may elect one, two, or three hours. Students who enter college in 1914 and thereafter are required to take three periods of sports each week in the fall and spring. Students are carefully examined before exercise is assigned.

FRESHMAN CLASS. Gymnastics, games, dancing, reading and conferences in practical hygiene. Three hours. *Mon., Tu., Th., 3.30 to 4.15.*

SOPHOMORE CLASS. Gymnastics, games, dancing, reading and conferences in practical hygiene. More advanced than Freshman work. Three hours. *Mon., Tu., Th., 2.30 to 3.15.*

SENIOR AND JUNIOR ELECTIVE CLASS. Similar to the required work, but more advanced. One or two hours. *Tu., Fri., 2.30 to 3.15.*

PLAY COURSE. Play, games, and folk dances suitable for elementary schools, playgrounds, and social settlements. Elective. One hour. *Fri., 3.30 to 4.15.*

RESTRICTED EXERCISE. Restricted gymnastics, games, and dancing will be offered to students who, because of their organic condition, or of temporary disability, are unable to take the regular class work.

REST AND HYGIENE READING. Students who are not able to take the required exercise in the gymnasium will be assigned to the rest room as a substitute. They will also do prescribed reading in personal hygiene and have conferences in hygiene with the instructor.

REMEDIAL EXERCISE. Special remedial work will be given to students who have poor posture.

SPORTS. All students are offered basket ball, tennis, bowling, and tramping under the supervision of the instructor during the entire year.

ORGANIZATION OF THE WOMEN'S COLLEGE

INSTRUCTION for undergraduate women‡ is provided by a department of the University known as **THE WOMEN'S COLLEGE IN BROWN UNIVERSITY.** The aim of the Women's College is to offer to all properly prepared women the same examinations, the same courses of study under the same teachers, and the same degrees that the University offers to men, but to preserve the distinct social life of a separate college.

The Corporation of the University has supervision and control of the Women's College as of other departments of the University, and for this purpose appoints annually an Executive Committee of the Women's College. The Corporation receives gifts of money to found scholarships, fellowships, and professorships in Brown University for the benefit of its women students, and for the general purposes of the Women's College, and holds and administers such funds as separate and distinct from the general funds of the University. All gifts, legacies, and bequests for the Women's College, like those meant for any other department of the University, should be made payable to "Brown University, in Providence, in the State of Rhode Island and Providence Plantations," and designated for the use of the Women's College.

The President of the University is charged with the general direction, supervision, and government of this College as of other departments of the University. The immediate direction, supervision, and control devolve, subject to the direction of the President, on the Dean of the Women's College. An Advisory Council, appointed under the authority of the Corporation, advises with the President and the Dean upon matters relating to the Women's Col-

‡ In the Graduate Department of Brown University all courses intended for graduate students are open to women on the same terms as to men.

lege, and makes recommendations to the Executive Committee of the Women's College or to the Corporation.

The Faculty of the Women's College is composed of the heads of all departments of instruction in Brown University, together with all professors and instructors who are actually teaching in the College.

The Women's College has a separate recitation hall, gymnasium, dormitory, and tennis ground, but uses the various libraries, laboratories, and museums of the University. For a description of these latter buildings, see pages 155-164. The grounds of the Women's College are an eighth of a mile from the University, with the main entrance at 172 Meeting Street. Pembroke Hall, the recitation building, contains the offices of the Dean and the Registrar, recitation rooms, a reading room and a library, a study, a chapel, and a lunch room. The Sayles Gymnasium contains the offices of the Instructor in Hygiene and Physical Education, a large hall with a gallery, two rest rooms, a room for corrective work, and a relaxation room; the basement is fitted up with dressing rooms, bathrooms, lockers, needle and shower baths, and bowling alleys. The dormitory, Miller Hall, opened in 1910, is on the college campus. It contains a library, reception, dining, and sitting rooms, an apartment for the Hall Mistress, and rooms for forty-eight students.

Bulletins of the Women's College may be obtained from the Registrar, The Women's College in Brown University, Providence, R. I. For information not contained in this Catalogue or in the Bulletins, apply to the Dean of the Women's College, Pembroke Hall, Providence, R. I.

REQUIREMENTS FOR ADMISSION

The requirements for admission to the Women's College are the same as those which the University prescribes for men. For information concerning admission by certificate or examination, and the times and places of examinations, see pages 30-32. Certificates and applications for permission to take examinations should be sent to the Registrar of the University. For the entrance requirements for the various degrees, admission to advanced standing, and admission of special students, see pages 33-52. Each applicant for registration as a special student must consult the Dean of the Women's College before registering.

REGISTRATION AND ENROLMENT

The regulations governing registration and enrolment are the same at the Women's College as at the University. (See pages 51, 52.) All students must apply for registration and enrolment at the office of the Registrar of the Women's College, in Pembroke Hall, between 9 a.m. and 12 m., or between 2 p.m. and 4 p.m., on either of the two days preceding the opening of college. Permission to change a previous registration must be obtained from the Dean, on the same days and at the same hours.

REQUIREMENTS FOR DEGREES

The requirements for the various degrees are explained on pages 53-67. Upon students of the Women's College who complete satisfactorily the work leading to the degree of Bachelor of Arts, Bachelor of Philosophy, or Bachelor of Science, the Board of Fellows of the University confers the appropriate degree. For the degrees conferred in 1914, see pages 195-198.

HYGIENE AND PHYSICAL EDUCATION

The aim of the work in Hygiene and Physical Education is to encourage habits of good hygienic living, special emphasis being placed upon proper body-posture, rational exercise, and rest. To this end, hygiene conferences with each student are held from time to time, a reference library in simple practical hygiene is supplied, physical examinations are given before the assignment of exercise and at the end of the year, and facilities are provided for exercise and rest. The courses offered in the gymnasium (see pages 241, 242) afford an opportunity for all students to take supervised exercise during the entire year. Out-door sports are also supervised by the Instructor. The rest rooms in Sayles Gymnasium are always open for the use of all students.

A thorough examination of all new students, basket-ball players, and such other students as need it is made at the beginning of each year by the Instructor in Hygiene and Physical Education and Dr. Frank T. Fulton. All new students are required to attend lectures on Hygiene, and a course in general Biology (Biology 1, 2) is required of all candidates for the degree of Bachelor of Philosophy.

CHAPEL EXERCISES

Chapel service is held four days a week at 9 a.m. On Wednesday morning at 9 a.m. the Student Government Association holds a mass meeting. Attendance is required on all five days. The weekly meeting of the Young Women's Christian Association is held on Fridays at 1.45 p.m.

FEES

Students at the Women's College pay the tuition fee of \$150 in two instalments: \$75 upon registration in September and \$75 upon registration in February. Freshmen pay a matriculation fee of \$5 upon registering in September. No deduction in tuition is made on account of absence. Laboratory fees, etc., must be paid two weeks before the close of a semester.

Special students at the Women's College are charged \$15 a semester for each course holding three recitations a week. Laboratory fees are in addition to this.

DORMITORY ACCOMMODATIONS

Miller Hall, the college dormitory, contains forty-eight single rooms, adequately furnished. The charge for room and board varies from \$270 to \$260 a year. Definite applications for rooms must be received by the Hall Mistress on or before May 1. The plan of the building, with other needed information, is printed in a separate pamphlet, which may be obtained from Miss S. G. Ross, Head of Miller Hall, 118 Cushing Street. Students who cannot secure rooms in Miller Hall are required to live in houses authorized by the College. A list of these may be obtained from the Head of Miller Hall.

LOAN FUNDS, SCHOLARSHIPS, AND FELLOWSHIPS

The College has a loan fund and various scholarships designed to aid deserving students. Aid is given only to students whose work is creditable, and is withdrawn if the recipients become deficient in scholarship or subject to college discipline. Applications should be made in writing to the Dean of the Women's College on or before May 1. Awards are made after July 1.

The Rhode Island Society for the Collegiate Education of Women has founded a Loan Fund from which students of the Women's College who have completed their first year may borrow moderate sums at a low rate of interest. This fund is available only for students whose record for scholarship is satisfactory to the committee which administers the loans. Further information may be obtained from the Dean.

The Rhode Island Women's Club annually devotes the income of its Churchill Fund toward the payment of the tuition of some student in the Women's College, preferably the daughter of a member of the Club.

There are also the following endowed scholarships:

THE SARAH E. DOYLE SCHOLARSHIP, of one thousand dollars, which bears the name of its founder; the income is applied toward the payment of the tuition of students in the Women's College who have been prepared for college in the Providence English High School.

THE SARAH SUTTON SCHOLARSHIP, of one thousand dollars, founded by one of her daughters.

THE DANIELS SCHOLARSHIP, of twenty-five hundred dollars; the income to be used toward paying the expenses of one or more women pursuing studies either in the University or in the Women's College.

THE HOWARD SCHOLARSHIP, of one thousand dollars, presented by James Leland Howard.

THE THAYER SCHOLARSHIP, founded by Edward C. Thayer, in honor of his father, Joseph Thayer, of the class of 1815; the income to be for the education of any young man or woman, a resident of Uxbridge, Mass., indorsed by the selectmen and superintendent of schools there, needing pecuniary aid, and giving promise by character and scholarship of a life of usefulness.

If there is no applicant from Uxbridge, the income may go to any applicant from Massachusetts who fulfils the conditions.

THE MARIA STORRS PECK SCHOLARSHIP, of one thousand dollars, presented by her sisters.

THE ELI THAYER SCHOLARSHIP OF THE OREADS, of three thousand dollars, founded by the Oread Collegiate Institute Association, in memory of the Hon. Eli Thayer, the founder of the Institute; the income to be for the education of a deserving student in the Women's College, preferably a descendant of a former student of the Institute.

THE WILLIAM FULLER AYER SCHOLARSHIPS, two of two thousand dollars each, one of one thousand dollars, founded by Dr. Oliver H. Arnold in memory of William Fuller Ayer; the income is given "to poor and deserving students showing diligence and marked ability in their collegiate studies."

THE DAVID W. HOYT SCHOLARSHIP, of two thousand dollars, founded by the Alumni Association of the Providence English High School; the income to go each year to some young man or woman designated by the Principal or the Acting Principal, for the time being, of the Providence High School, subject to the approval of the President or the Acting President, for the time being, of Brown University.

THE EMMA JOSEPHINE (AYER) ARNOLD ARCHAEOLOGICAL FELLOWSHIP, of ten thousand dollars, founded by Dr. Oliver H. Arnold in memory of his wife; the income is awarded, first, to a member of the graduating class, or, second, to a graduate of not more than ten years' standing, who is adequately prepared for post-graduate work in Archaeology, either Classical or Oriental, and who through scholarly attainments and by habits of zealous and diligent study gives great promise of a useful and successful career. The income is to be applied to the expenses of a one, two, or three year course in Archaeology either in the United States or in any foreign country. In case there is no applicant of sufficient merit among the alumnae, the Fellowship is to be awarded for one year to an alumnus of the University who meets the above requirements. If there are no applicants for the use of this Fellowship in Archaeology, it is to be given for one year of post-graduate work in Higher Mathematics to an alumna who has exceptional ability and intends to follow the teaching of Mathematics as a profession. Applications for this fellowship should be accompanied by academic records, testimonials as to character, ability, and health, specimens of written work, and a statement of the applicant's plan of work, and should be sent to Dean King before January 1, 1915.

The College awards annually from its own funds scholarships of varying amounts, to students in need of financial aid.

PRIZES, PREMIUMS, AND HONORS

THE GASPEE CHAPTER DAUGHTERS OF THE AMERICAN REVOLUTION PRIZE. This prize of forty dollars is awarded annually to that student in the graduating class of the Women's College who shall present the best essay of recognized merit upon some topic in American history. The essays are to bear each an assumed name, and to be accompanied by an envelope marked with the assumed name and inclosing the candidate's real name and address. The essays must be handed to the Dean before May 15. The award is announced at Commencement. The subject for 1914-15 is: *Rhode Island Industry and Commerce during the first half of the Eighteenth Century.*

THE CHACE PRIZE. The will of Mrs. Elizabeth D. Chace makes provision for a prize of twenty-five dollars, to be awarded to that student of the Women's College who shall present the best essay, of recognized merit, upon the Women's Suffrage Movement. The essays must be handed to the Dean before May 15.

THE SOCIETY OF COLONIAL DAMES PRIZE IN AMERICAN HISTORY. The income of a fund of fifteen hundred dollars, known as the Roger Williams Fund established by the National Society of Colonial Dames in the State of Rhode Island and Providence Plantations, given to the University in 1906, is awarded annually as a prize for the best essay on a subject in American colonial history. The competition is open to Juniors, Seniors, and Graduates, and to men and women on equal terms. Essays must show independent use of authorities, and should, in general, extend to at least four thousand words. Detailed regulations governing the competition are announced from year to year. The award is announced at Commencement. The essays must be handed to the Dean before May 15. The subject for 1914-15 is: *The Participation of Rhode Island in the French and Indian Wars.*

THE EDYTHE PECK ADAMS PRIZE. This prize is offered by the Class of 1901 for the best short story written by an undergraduate of the Women's College. The essays must be handed to the Dean before May 15.

ADDITIONAL PREMIUMS. The students of the Women's College are entitled to compete in all examinations for premiums and prizes offered in Brown University. In case any woman is entitled to a first premium, competed for by examination, a prize, the amount of which is duly announced, is awarded by the Dean.

FINAL HONORS are awarded by the University to women on the same conditions as to men. (See pages 193, 194.)

PRIZES AND PREMIUMS AWARDED IN 1914

The Gaspee Chapter Daughters of the American Revolution Prize, to

MAUDE EUNICE SEARS

The Chace Prize to

HERMIONE LOUISE DEALEY

The Edythe Peck Adams Prize to

ELIZABETH EDDY LITTLE

A collateral first premium in Greek to

DOROTHY PALMER HULL

A collateral first premium in Latin to

MAUDE EUNICE SEARS

A collateral first premium in preparatory Latin to RUTH WAKEFIELD, instructed in the English High School, Providence.

A collateral first premium in preparatory Greek to IRENE ATHALIA BENGSTON, instructed in the Classical High School, Providence.

A collateral first premium in preparatory German to ROSE PRESEL, instructed in the Hope Street High School, Providence.

A collateral first premium in preparatory French to MARIE STELLA LAFRANCE, instructed in the Plainfield High School, Central Village, Ct.

STUDENTS IN THE WOMEN'S COLLEGE

SENIORS : CLASS OF 1915

NAME		RESIDENCE
Elizabeth Lucy Angell	A	<i>Providence</i>
Janet Macfarlane Bourn	P	<i>Providence</i>
Lucy Elizabeth Bourn	P	<i>Providence</i>
Katherine Canada	A	<i>Barrington</i>
Almira Bashford Coffin	A	<i>Newport</i>
Lydia Louise Cooper	A	<i>Attleboro, Mass.</i>
Ethel Lucetta Crompton	P	<i>Methuen, Mass.</i>
Helen Lucille Crooker	P	<i>Meshanticut</i>
Margaret Crooks	P	<i>Ravenswood, W. Va.</i>
Grace Emma Currie	A	<i>Attleboro, Mass.</i>
Helen Alida Daniels	A	<i>Providence</i>
Marjorie May Farnum	A	<i>Uxbridge, Mass.</i>
Carrie Thompson Foulkes	A	<i>Mansfield, Mass.</i>
Marion Page Harley	A	<i>Pawtucket</i>
Emelia Adele Hempel	A	<i>Providence</i>
Ruth Margaret Henderson	A	<i>Norwich, Ct.</i>
Florence Belle Hopkins	A	<i>North Foster</i>
Marion Katherine Horton	P	<i>Danielson, Ct.</i>
Maybell Olney Kingsley	A	<i>Saylesville</i>
Gertrude Emma Kneeland	A	<i>Worcester, Mass.</i>
Lillian Irene Mathewson	A	<i>Johnston</i>
Alice Inez McMeehan	A	<i>Rumford</i>
Ruth Eleanor Norris	A	<i>Brockton, Mass.</i>
Helen Earl Potter	A	<i>Natick</i>
Elinor Edna Randall	A	<i>Providence</i>
Frances Marjorie Richardson	A	<i>Putnam, Ct.</i>
Ethel Marguerite Sack	P	<i>Providence</i>
Blanche Antoinette Schiller	A	<i>Central Falls</i>
Ruth Sisson	A	<i>Providence</i>
Edna Goldberg Solinger	A	<i>Providence</i>
Edna Frances Southwick	A	<i>Pawtucket</i>
Nancy Steere	P	<i>Providence</i>
Elizabeth Agnes Sullivan	A	<i>Hamilton</i>
Ruth Harriet Thayer	A	<i>Springfield, Mass.</i>
Elizabeth Gregory Walter	P	<i>Lyndonville, Vt.</i>
Alma May Waterman	A	<i>Cranston</i>
Mildred Wells	P	<i>Middleburgh, N. Y.</i>
May Chaffee West	P	<i>Seekonk, Mass.</i>

NAME		RESIDENCE
Gladys Elizabeth Wilbur	A	<i>Schenectady, N. Y.</i>
Charlotte Audra Young	A	<i>Bristol</i>
Lucy Alma Young	A	<i>Danielson, Ct.</i>

JUNIORS : CLASS OF 1916

Madeleine Frances Bannon	A	<i>Providence</i>
Marjorie Denison Barber	P	<i>Westerly</i>
Sara Wilhelmina Bennett	A	<i>North Providence</i>
Emma Lillian Black	P	<i>Providence</i>
Martha Marietta Burgess	P	<i>North Scituate</i>
Helen Rowland Burr	A	<i>Providence</i>
Mary Regina Butler	A	<i>Pawtucket</i>
Albertine Louise Butts	A	<i>Providence</i>
Esther Clarissa Cook	A	<i>Woonsocket</i>
Margaret Frances Corey	A	<i>Pawtucket</i>
Elsie Wild Cushing	A	<i>North Providence</i>
Edith Chace Davis	A	<i>Chepachet</i>
Irene Celine Dougherty	A	<i>Providence</i>
Helen Gertrude Douglas	P	<i>Concord Junction, Mass.</i>
Sadie Jane Duguid	P	<i>North Grafton, Mass.</i>
Edith Violet Edwards	P	<i>Providence</i>
Marion Gray Evans	A	<i>Jefferson, N. H.</i>
Lily Mary Faust	A	<i>Cranston</i>
Sarah Newcomb Gallagher	A	<i>East Greenwich</i>
Helen Dudley Hartwell	A	<i>Providence</i>
Emma Frances Jenkins	P	<i>Oak Lawn</i>
Anna Sara Jones	P	<i>Alton Bay, N. H.</i>
Vivian Mildred Lewis	A	<i>Providence</i>
Elizabeth Eddy Little	A	<i>Edgewood</i>
Mary Edgarton Longley	P	<i>Worcester</i>
Margaret Mary McGonagle	A	<i>Pawtucket</i>
Margaret Gammell Meader	A	<i>Providence</i>
Mary Eleanor Moore	P	<i>Southington, Ct.</i>
Mary Imelda O'Brien	A	<i>Providence</i>
Marion Gertrude O'Day	A	<i>Worcester, Mass.</i>
Ethel Page	A	<i>Pawtucket</i>
Ruth Caroline Paine	A	<i>Apponaug</i>
Pauline May Pearce	P	<i>Providence</i>
Elsie Embley Pickles	P	<i>Providence</i>
Alice Olney Randall	A	<i>Providence</i>
Annie Evelyn Rathbun	A	<i>Anthony</i>
Emilie Lissette Sam	A	<i>Providence</i>

NAME		RESIDENCE
Rebecca Rogers Snow	P	<i>Pawtucket</i>
Edith Marguerite Sprague	A	<i>Palmyra, Mich.</i>
Marion Elizabeth Stark	A	<i>Norwich, Ct.</i>
Marian Sweet	A	<i>Providence</i>
Pearle Lee Temple	A	<i>Providence</i>
Clara Mabel Thompson	A	<i>Providence</i>
Helen Marguerite Thompson	A	<i>Saylesville</i>
Marian Marsh Torrey	A	<i>Providence</i>
Emma Rose Wagner	P	<i>Berkeley</i>
Adele Madeleine Wildes	A	<i>Edgewood</i>
Gladys Evelyn Winsor	A	<i>Providence</i>
Alice May Wood	A	<i>Providence</i>

SOPHOMORES : CLASS OF 1917

Annie Alvira Adams	A	<i>North Attleboro, Mass.</i>
Doris Dwinel Aldrich	P	<i>Providence</i>
Sarah Ella Angell	P	<i>Providence</i>
Annie Allen Averill	P	<i>Pomfret Centre, Ct.</i>
Ruth Barton	P	<i>Centerville</i>
Hazel Shaw Bethel	A	<i>Woonsocket</i>
Hazel Marjorie Blaisdell	A	<i>East Franklin, Me.</i>
Margaret Elizabeth Carr	A	<i>Newport</i>
Eunice Elizabeth Chace	A	<i>Pawtucket</i>
Helen Liefter Cohen	A	<i>Reading, Pa.</i>
Amanda Elsie Collette	P	<i>Fisherville, Mass.</i>
Marjorie Cotton	A	<i>Providence</i>
Mary Drusilla Flather	P	<i>Lowell, Mass.</i>
Ruth Harvey Hall	A	<i>Plainfield, Ct.</i>
Mabel Eunice Harrington	A	<i>Providence</i>
Grace Ethel Hawk	A	<i>Reading, Pa.</i>
Beatrice Elizabeth Hincks	P	<i>Providence</i>
Ella Katharyn Hudson	A	<i>Uxbridge, Mass.</i>
Bessie Turner Keene	A	<i>Providence</i>
Louise Cecilia Kennedy	A	<i>Moosup, Ct.</i>
Lena Rose Lopiansky	A	<i>Hartford, Ct.</i>
Alice Louise McCaffrey	A	<i>Woonsocket</i>
Anna Hildegard Mee	A	<i>Woonsocket</i>
Florence Hooper Miner	A	<i>Oak Lawn</i>
Sarah Ida Morse	A	<i>Edgewood</i>
Ruth Evelyn Myrick	P	<i>Providence</i>
Elsie Northup	A	<i>Peace Dale</i>
Edna Louisa Paine	P	<i>Chepachet</i>

NAME		RESIDENCE
Bertha Mae Prentiss	A	<i>Springfield, Mass.</i>
Florence Relief Rhodes	A	<i>Oxford, Mass.</i>
Marjorie Aline Robertson	P	<i>Edgewood</i>
Elizabeth de Welden Root	A	<i>Providence</i>
Edith Charlotte Swanson	P	<i>Crompton</i>
Helen Tingley	A	<i>Bristol</i>
Lena Frances Uhlig	A	<i>Attleboro, Mass.</i>
Harriet Cutler Waterman	P	<i>Providence</i>
Winnifred Caroline Wetherbee	A	<i>Fall River, Mass.</i>
Ruth Young	A	<i>Providence</i>

FRESHMEN : CLASS OF 1918

Dorothy Carter Allan	A	<i>Newport</i>
Grace Elizabeth Allen	A	<i>Providence</i>
Marian Elizabeth Anthony	A	<i>Barrington</i>
Ida Elizabeth Arnold	A	<i>Providence</i>
Esther Barnet	P	<i>New Bedford, Mass.</i>
Dorothy Beals	A	<i>Cranston</i>
Marietta Ellen Beehan	A	<i>Providence</i>
Irene Athalia Bengston	A	<i>Providence</i>
Amelia Adeline Borden	P	<i>Pawtuxet</i>
Mary Isabel Briggs	A	<i>East Greenwich</i>
Margaret Allyn Carpenter	P	<i>Pawtucket</i>
Jennie Cooperstein	A	<i>Taunton, Mass.</i>
Gladys Cummings	A	<i>Providence</i>
Dorcas Anna Davis	P	<i>Providence</i>
Clara Elizabeth Dealey	P	<i>Providence</i>
Edith Earle	P	<i>Meshanticut</i>
Marie Ettl	A	<i>Leonia, N. J.</i>
Elsie May Flint	A	<i>Providence</i>
Dorothy Foster	A	<i>Auburn</i>
Marie Blanche Frégeau	A	<i>New Bedford, Mass.</i>
Hazel Vesta Gerber	P	<i>Webster, Mass.</i>
Elizabeth Gillies	P	<i>Wakefield</i>
Esther Lucy Greene	P	<i>Edgewood</i>
Bessie Higgins	P	<i>Campello, Mass.</i>
Dorothea Marion Hoxsie	P	<i>Phenix</i>
Mae Emily Jackson	A	<i>Providence</i>
Agnes Isadore Johnson	A	<i>East Providence</i>
Edith May Johnson	P	<i>Providence</i>
Mabel Constance Kenyon	P	<i>Hopkinton</i>
Marian Edna Knowles	P	<i>Campello, Mass.</i>

NAME		RESIDENCE
Marie Stella Lafrance	A	<i>Central Village, Ct.</i>
Marjorie Pierce Lake	A	<i>Providence</i>
Christine Elizabeth Lemmo	A	<i>Media, Pa.</i>
Felicetta Leoni	P	<i>Woonsocket</i>
Mildred Mary McDevitt	A	<i>Edgewood</i>
Irene Hazel Magaveny	A	<i>Attleboro, Mass.</i>
Mabel Elizabeth Middleton	P	<i>Providence</i>
Luella Miller	P	<i>Port Chester, N. Y.</i>
Imogene Louise Minkins	A	<i>Pawtucket</i>
Helen Axtell Mowry	A	<i>Putnam, Ct.</i>
Elizabeth Rogers O'Donnell	A	<i>Woonsocket</i>
Ruth Caroline Parker	A	<i>Providence</i>
Jane Frances Peckham	A	<i>Bradford</i>
Marion Robins Pfeiffer	A	<i>Providence</i>
Rose Presel	P	<i>Providence</i>
Beatrice Rayment	A	<i>Taunton</i>
Hannah Grace Roach	A	<i>Springfield, Mass.</i>
Martha Josephine Mary Ryan	A	<i>Providence</i>
Evelyn Adelia Salmon	P	<i>Brooklyn, Ct.</i>
Marion Sherman	A	<i>Bristol</i>
Annie Desmond Sisson	A	<i>Bristol</i>
Mildred Josephine Smith	A	<i>Providence</i>
Evelyn Southwell	A	<i>Providence</i>
May Sperry	P	<i>Oak Lawn</i>
Mildred Mary Stanton	A	<i>Pawtucket</i>
Isabel Louise Taylor	P	<i>Meshanticut</i>
Annie Terry	P	<i>Springfield, Mass.</i>
Mary Clarke Tucker	P	<i>Narragansett Pier</i>
Ruth Wakefield	A	<i>Providence</i>
Madeleine Howe Webster	A	<i>East Providence</i>
Ruth Estella Wells	P	<i>Centerville</i>
Olive Collins White	A	<i>Providence</i>
Janet Agnes Williamson	A	<i>Newport</i>
Caroline Louisa Wright	P	<i>Providence</i>

SPECIAL STUDENTS

Ruth Campbell	<i>Providence</i>
Marion Arlette Cooke	<i>Providence</i>
Chrissie Davis	<i>Providence</i>
Dorothy Antoinette Dowell	<i>Providence</i>
Grace Herreshoff	<i>Providence</i>
Mattie Elizabeth Hobart	<i>Providence</i>

NAME	RESIDENCE
Stella Leonore La Fond	<i>Woonsocket</i>
Vera Levine	<i>Providence</i>
Mildred Morse	<i>Woonsocket</i>
Frances Semle	<i>Providence</i>
Pearl Alice Smith	<i>Gloucester, Mass.</i>
Mary Alice Stillman	<i>East Providence</i>
Rachael White	<i>Groton, Ct.</i>

APPENDIX

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THE BROWN UNIVERSITY TEACHERS' BUREAU

THE Brown University Teachers' Bureau was established for the purpose of facilitating communication between the heads of educational institutions and graduates of Brown who desire positions as teachers. To this end it solicits correspondence with those who are seeking teachers, and invites inspection of the list of teachers now registered. It advises graduates of Brown who wish its assistance to register at once, and, if possible, to meet the Secretary in a personal interview. It offers to undergraduates information as to subjects in which there is a demand for teachers, as to positions commonly open to recent graduates, and as to the preparation usually required. No charge for the services of the Bureau is made either to students or to schools. It is the further purpose of the Bureau to foster coöperation between the University and all graduates engaged in the work of education. As far as possible an accurate register of the addresses and the positions of all such graduates is kept. The office of the Secretary, Professor WALTER BALLOU JACOBS, is in the John Hay Library.

THE BROWN UNIVERSITY BUREAU OF APPOINTMENTS

This Bureau has been established to assist former students of the University in securing other kinds of employment than those cared for by the Teachers' Bureau. It desires to obtain from friends of the University information in regard to positions available for college men. This information it will supply to those who may register with the Bureau. Blanks for this purpose may be obtained from the Secretary and no charge will be made for the services of the Bureau. The office of the Secretary, Professor ANSEL BROOKS, is in the Engineering Building, Room 15.

THE BROWN UNIVERSITY TEACHERS' ASSOCIATION

The Brown University Teachers' Association was organized in 1903. The purpose of the Association is "first, to further the mutual interests of Brown University and the schools preparing students therefor; and second, to pro-

mote the welfare of the Alumni of the University who are teachers." The eleventh annual meeting of the Association was held at Brown University on Friday and Saturday, April 10 and 11, 1914.

OFFICERS FOR 1914-15

President: JOHN SHAW FRENCH, PH.D., *Principal, Morris Heights School, Providence.*

First Vice-President: WALTER GOODNOW EVERETT, PH.D., *Professor of Philosophy, Brown University.*

Second Vice-President: JOHN LINCOLN ALGER, A.M., *Principal, Rhode Island State Normal School.*

Secretary: WALTER BALLOU JACOBS, A.M., *Professor of Education, Brown University.*

Treasurer: CLARENCE HARTWELL MANCHESTER, A.M., *Teacher of English, Technical High School, Providence.*

Executive Committee: THE OFFICERS OF THE ASSOCIATION AND THE PRESIDENT OF THE UNIVERSITY, *ex officio*; LIDA SHAW KING, LL.D., *Dean of Women's College, Brown University*; JESSE MADISON GATHANY, A.M., *Teacher of History, Hope St. High School, Providence.*

THE RHODE ISLAND ALPHA OF THE PHI BETA KAPPA SOCIETY

OFFICERS AND COMMITTEES FOR 1914-15

President: ROBERT PERKINS BROWN, A.M.

Vice-President: PROFESSOR OTIS EVERETT RANDALL, PH.D.

Secretary: PROFESSOR JAMES QUAYLE DEALEY, PH.D.

Treasurer: CHARLES CARNEY MUMFORD, A.M.

Historian: PROFESSOR WILFRED HAROLD MUNRO, L.H.D.

Committee on Alumni and Honorary Membership: WILLIAM HOLDEN EDDY, PH.D., JOHN LINCOLN ALGER, A.M., PROFESSOR WILLIAM THOMPSON HASTINGS, A.M., the Secretary, *ex officio*.

Committee on Arrangements: THE PRESIDENT, *ex officio*, STEPHEN OSTROM EDWARDS, LL.D., PROFESSOR HENRY BRAYTON GARDNER, PH.D.

Committee on New Chapters: PROFESSOR JAMES QUAYLE DEALEY, PH.D., ISAAC OSCAR WINSLOW, A.M., JAMES ALDRICH PIRCE, A.M.

Committee on Nomination of Officers: PROFESSOR WALTER GOODNOW EVERETT, PH.D., CLIFFORD WHIPPLE, A.M., HERBERT AMBROSE RICE, A.M.

Auditor: WILLIAM WASHBURN MOSS, A.M.

MEN ELECTED IN 1914

Alumni: ALBERT ROBINSON EVANS, '08, HAROLD DEXTER HAZELTINE, '94, LOUIS EARLE ROWE, '04, ALBERT ELLSWORTH THOMAS, '94.

Seniors: CHARLES EVERETT BLACKWAY, RAYMOND FRANKLIN BORDEN, ARTHUR WILLIAM CATE, HUBERT HAYWOOD CHAMPNEY, CLARENCE ADELBERT DAVIS, ABRAHAM FEITELBERG, FREDERICK ROWLAND HAZARD, JR., EDWARD ALOYSIUS McLAUGHLIN, CYRIL CARPENTER SMITH.

Juniors: ISMAR BARUCH, RALPH LEON BLANCHARD, GEORGE FREMONT BLIVEN, FREDERICK HARTWELL GREENE, FREDERIC JOHNSON HUNT, SAMUEL GREENE ARNOLD ROGERS.

WOMEN ELECTED IN 1914

Seniors: ELISABETH BODFISH, MARY LYON BOSWORTH, MILDRED ELAINE CUTLER, MARY CHRISTINA GRANDFIELD, WINONA MERLE PERRY, FLORENCE MCGREGOR SIMONDS, MARJORIE ARNOLD THAYER.

Juniors: MARION PAGE HARLEY, EMILIA ADELE HEMPEL, BLANCHE ANTOINETTE SCHILLER.

THE BROWN CHAPTER OF THE SOCIETY OF THE SIGMA XI

Students who have taken at least fifty-two semester hours in pure or applied science are, in their Senior year, eligible to membership in the honorary scientific society, Sigma Xi, provided that they have "given promise of marked ability in those lines of work which it is the object of the Society to promote."

OFFICERS AND COMMITTEES FOR 1914-15

President: Professor CHARLES WILSON BROWN, A.M.

Vice-President: Professor HERBERT EUGENE WALTER, Ph.D.

Recording Secretary: Professor ROLAND GEORGE DWIGHT RICHARDSON, Ph.D.

Corresponding Secretary: Professor HARLAN HARVEY YORK, Ph.D.

Treasurer: Professor PHILIP HENRY MITCHELL, Ph.D.

Auditor: CLINTON HARVEY CURRIER, A.M.

Councillor: Professor ALBERT DEFOREST PALMER, Ph.D.

Committee on Nominations: Professor WILLIAM HERBERT KENERSON, M.E., Professor ROLAND GEORGE DWIGHT RICHARDSON, Ph.D., Professor JOHN EDWARD HILL, Sc.D., Professor FREDERIC POOLE GORHAM, A.M., Professor JOHN EMERY BUCHER, Ph.D.

MEMBERS ELECTED IN 1914

Faculty: Professor HARDY CROSS, C.E.M.

Alumnus: HENRY EMMANUEL HALLBORG, '07.

Graduate Students: HELEN EMERSON, ALFRED CARY HAWKINS, RALPH GIBNEY HURLIN, THOMAS HOWARTH ROBERTS, GEORGE HENRY ROBINSON, JOHN FREDERICK VON DER LEITH.

Seniors: ELISABETH BODFISH, RAYMOND FRANKLIN BORDEN, HUBERT HAYWOOD CHAMPNEY, HERBERT ELLIOTT FOOTE, EARL WHITTEMORE HARRINGTON, CHESTER LEWIS KNOWLES, CYRIL CARPENTER SMITH, ELI VINER.

THE ASSOCIATED ALUMNI

OFFICERS AND COMMITTEES FOR 1914-15

President: EDWARD OTIS STANLEY, '76, New York.

Vice-Presidents: CHARLES CARNEY MUMFORD, A.M., '81, Providence, CLARENCE HART LINGHAM, '97, Boston.

Secretary: ALBERT KNIGHT POTTER, A.M., '86, Providence.

Treasurer: ROBERT WENDELL TAFT, PH.B., '91, Providence.

Executive Committee: WILLIAM CHACE GREENE, A.M., '75, BYRON SPRAGUE WATSON, A.B., '97, WALTER LEE MUNRO, '79, ARCHIBALD CLAFLIN MATTESON, A.B., '93, HORACE PAUL DORMAN, '96.

Advisory Board: GEORGE FREMONT BEAN, LL.B., '81, WALTER CORNELIUS WYCKOFF, A.B., '95, SEEGER EDWARDS, LL.B., '91, ALBERT KNIGHT POTTER, A.M., '86, *ex officio*, and representatives chosen by the Alumni Associations.

ALUMNI ASSOCIATIONS

BOSTON. *President*, Professor George Grafton Wilson, '86. *Secretary*, Ralph B. Harris, '97, 2 Pickman Street, Salem, Mass.

NEWPORT. *President*, Dr. Clarence A. Carr, '87. *Secretary and Treasurer*, Alfred G. Langley, '76, 1 School Street, Newport, R. I.

WOONSOCKET. *President*, Anthony A. Mulligan, '96. *Secretary*, Frederic Earle Whitaker, '88, 9 Longley Building, Woonsocket, R. I.

FALL RIVER. *President*, Dr. Ralph W. Jackson, '89. *Secretary*, Harry Smalley, '04, 611 June Street, Fall River, Mass.

WORCESTER COUNTY SONS OF BROWN. *President*, George A. Gaskill, '98. *Secretary and Treasurer*, Clarence S. Brigham, '99, American Antiquarian Society, Worcester, Mass.

CONNECTICUT VALLEY. *President*, William C. Hill, '94. *Secretary and Treasurer*, Arthur S. Gaylord, '02, 362 Chestnut Street, Holyoke, Mass.

NEW BEDFORD. *President*, Edmund Wood, '76. *Secretary and Treasurer*, William O. Devoll, Jr., '07, 44 Chestnut Street, New Bedford, Mass.

- WASHINGTON AND NEW LONDON COUNTIES. *President*, Henry R. Palmer, '90.
- BRISTOL. *President*, Hon. Augustus O. Bourn, '55. *Secretary*, Howard R. Newman, '08, 110 High Street, Bristol, R. I.
- NEW HAMPSHIRE AND VERMONT. *President*, George I. Hopkins, '75. *Secretary*, Dr. Henry W. N. Bennett, '97, Manchester, N. H.
- WESTERN MAINE. *President*, George Dudley Church, '99. *Secretary*, Newton C. Reed, n. '03, Evening Express, Portland, Me.
- NEW YORK CITY. *President*, Clarkson A. Collins, '76. *Secretary*, Herbert B. Keen, '07, 44 West 44th Street, New York City.
- ALBANY. *President*, Alexander H. Abbott, '03. *Secretary and Treasurer*, Frank C. Hulse, '05, 423 Brandywine Avenue, Schenectady, N. Y.
- CENTRAL NEW YORK. *President*, Frederick R. Hazard, '81. *Secretary and Treasurer*, Warren G. Bullard, '92, 613 South Crouse Avenue, Syracuse, N. Y.
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TABLE SHOWING RENT AND LOCATION OF DORMITORY ROOMS

HOPE COLLEGE

<i>No.</i>	<i>Division</i>	<i>Floor</i>	<i>Windows face</i>	<i>Bedrooms</i>	<i>Rent</i>
1	South	1	E. & S.	There are no separate bedrooms, but Nos. 1 and 2, 5 and 6, 9 and 10, 35 and 36, 39 and 40, 43 and 44, can be used either as suites or as single rooms.	\$136
2	"	"	W. & S.		142
3	"	"	W.		136
4	"	"	E.		133
5	"	2	E. & S.		136
6	"	"	W. & S.		142
7	"	"	W.		136
8	"	"	E.		133
9	"	3	E. & S.		127
10	"	"	W. & S.		137
11	"	"	W.		127
12	"	"	E.		121
13	"	4	E. & S.		121
14	"	"	W. & S.		127
15	"	"	W.		121
16	"	"	E.		118
17	Middle	1	E.		133
18	"	"	W.		136
19	"	"	W.		136
20	"	"	E.		133
21	"	2	E.		133
22	"	"	W.		136
23	"	"	W.		136
24	"	"	E.		133
25	"	3	E.		121
26	"	"	W.		127
27	"	"	W.		127
28	"	"	E.		121
29	"	4	E.		118
30	"	"	W.		121
31	"	"	W.		121
32	"	"	E.		118
33	North	1	E.		133
34	"	"	W.		136
35	"	"	W.		148
36	"	"	E.		148
37	"	2	E.		133
38	"	"	W.		136
39	"	"	W. & N.		148
40	"	"	E. & N.		148
41	"	3	E.		121
42	"	"	W.		127
43	"	"	W. & N.		136
44	"	"	E. & N.		136
45	"	4	E.		118
46	"	"	W.		121
47	"	"	W. & N.		127
48	"	"	E. & N.		127

BROWN UNIVERSITY

UNIVERSITY HALL

<i>No.</i>	<i>Division</i>	<i>Floor</i>	<i>Windows face</i>	<i>Bedrooms</i>	<i>Rent</i>
4	South	1	W.	None	\$140
10	"	2	S. & W.	1	235
12	"	"	W.	None	125
13	"	"	W.	"	125
16	"	"	E.	"	110
17	"	"	E.	"	116
18	"	"	E. & S.	"	143
19	"	3	S. & W.	1	225
21	"	"	W.	None	122
22	"	"	W.	"	122
25	"	"	E.	"	110
26	"	"	E.	"	110
27	"	"	E. & S.	"	131
28	"	4	S. & W.	1	205
30	"	"	W.	None	110
31	"	"	W.	"	110
32	"	"	E.	"	107
33	"	"	E.	"	107
34	"	"	E. & S.	"	131
40	North	2	W.	"	125
41	"	"	W.	"	125
43	"	"	W. & N.	1	235
44	"	"	E. & N.	None	131
45	"	"	E.	"	116
46	"	"	E.	"	116
47	"	3	W.	"	116
48	"	"	W.	"	116
50	"	"	W. & N.	1	225
51	"	"	E. & N.	None	125
52	"	"	E.	"	110
53	"	"	E.	"	110
54	"	4	W.	"	110
55	"	"	W.	"	110
57	"	"	W. & N.	1	195
58	"	"	E. & N.	None	125
59	"	"	E.	"	107
60	"	"	E.	"	107

SLATER HALL

1	South	1	E. S. & W.	2	260.00
2	"	"	E. & W.	1	200.00
3	"	2	E. S. & W.	2	260.00
4	"	"	E. & W.	2	245.00
5	"	3	E. S. & W.	2	250.00
6	"	"	E. & W.	2	245.00
7	"	4	E. S. & W.	1	175.00
8, 9	"	"	W.	1	194.00
10	North	1	E. & W.	2	269.50
11	"	"	E. W. & N.	2	269.50

SLATER HALL (*continued*)

No.	Division	Floor	Windows face	Bedrooms	Rent
12	North	2	E. & W.	2	\$269.50
14	"	"	W. N. E.	2	286.00
15	"	3	W. & E.	2	264.00
17	"	"	W. N. E.	2	275.00
18, 19	"	4	E. & W.	1	206.80
20	"	"	W. N. E.	1	176.00

CASWELL HALL

1	North	1	E. N. & W.	1	375
2	"	"	E. & W.	1	350
3	"	2	E. N. & W.	2	375
4	"	"	E. & W.	2	350
5	"	3	E. N. & W.	2	375
6	"	"	E. & W.	2	350
7	"	4	E. & N.	None	195
8	"	"	W. & N.	"	195
9	"	"	W.	"	165
10	"	"	E.	"	165
11	Middle	1	"	"	175
12	"	"	W.	"	175
13	"	"	"	"	175
14	"	"	E.	"	175
15	"	2	"	"	185
16	"	2	W.	"	185
17	"	"	"	"	185
18	"	"	E.	"	185
19	"	3	"	"	185
20	"	"	W.	"	185
21	"	"	"	"	185
22	"	"	E.	"	185
23	"	4	"	"	165
24	"	"	W.	"	165
25	"	"	"	"	165
26	"	"	E.	"	165
27	South	1	E. & W.	1	350
28	"	1	E. S. & W.	1	375
29	"	2	E. & W.	2	350
30	"	"	E. S. & W.	2	375
31	"	3	E. & W.	2	350
32	"	"	E. S. & W.	2	375
33	"	4	E.	None	165
34	"	"	W.	"	165
35	"	"	W. & S.	"	195
36	"	"	E. & S.	"	195

BROWN UNIVERSITY

MAXCY HALL

<i>No.</i>	<i>Floor</i>	<i>Windows face</i>	<i>Rent</i>
313	3	E.	\$140
314	"	"	140
315	"	E. & S.	140
316	"	W. & S.	135
317	"	W.	135
318	"	"	135
319	"	"	135
320	"	"	135
321	"	W. & N.	135
322	"	E. & N.	140
323	"	E.	140
324	"	"	140
425	4	"	140
426	"	"	140
427	"	E. & S.	140
428	"	W. & S.	135
429	"	W.	135
430	"	"	135
431	"	"	135
432	"	"	135
433	"	W. & N.	135
434	"	E. & N.	140
435	"	E.	140
436	"	"	140

DIRECTORY TO THE DORMITORIES

Hope College, South Division, Rooms 1 to 16.

Hope College, Middle Division, Rooms 17 to 32.

Hope College, North Division, Rooms 33 to 48.

Maxcy Hall, Rooms 313 to 436.

Slater Hall, South Division, Rooms 1 to 9.

Slater Hall, North Division, Rooms 10 to 20.

University Hall, South Division, Rooms 1 to 34.

University Hall, North Division, Rooms 35 to 61.

Caswell Hall, North Division, Rooms 1 to 10.

Caswell Hall, Middle Division, Rooms 11 to 26.

Caswell Hall, South Division, Rooms 27 to 36.

SUMMARY OF REGISTRATION

UNDERGRADUATE MEN

Seniors	158
Juniors	151
Sophomores	173
Freshmen	194
Special Students	36
Total	712

THE WOMEN'S COLLEGE

Seniors	41
Juniors	49
Sophomores	38
Freshmen	64
Special Students	13
Total	205

GENERAL SUMMARY

Graduates	119
Undergraduate Men	712
Women's College	205
	1036
Deduct for names counted twice	3
Total	1033
Registered in Extension Courses, first semester, 1914-15, and not included above	291

DIRECTORY OF OFFICERS AND STUDENTS

The addresses given are in Providence, unless otherwise stated. If an officer is on leave of absence for the year, his name is bracketed. The following abbreviations are used: *Fr.* = Freshman; *So.* = Sophomore; *Jr.* = Junior; *Sr.* = Senior; *Sp.* = Special Student; *Gr.* = Graduate Student; *W.* = Women's College; *J. C. B. L.* = John Carter Brown Library; *H.* = Hope College; *U.* = University Hall; *S.* = Slater Hall; *M.* = Maxcy Hall; *C.* = Caswell Hall; *B.* = Brunonia Hall; 65 College = 65 College Street, Providence, etc. Where no state is mentioned, Rhode Island is to be understood. The number *precedes* the name of a street, but *follows* the name of a building.

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Adelman, D. I., <i>Gr.</i> 228 Prairie Ave.	Alm, A. A., <i>Jr.</i> H. 12
Adelman, M., <i>Jr.</i> 12 Camp	Ames, F. R., <i>Jr., Sp.</i> 298 Washington Ave.
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Adye, E. M., <i>Gr.</i> 236 Broad	ANDERSON, T. D., <i>Sec'y of Corporation</i> 2 Wellington Ter., Brookline, Mass.
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Ahlquist, A. A., <i>Gr.</i> Pontiac	Angell, E. L., <i>W. Sr.</i> 43 Hammond
Ahlquist, E. P., <i>Fr.</i> 149 Benefit	Angell, S. E., <i>W. So.</i> 43 Hammond
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- Baker, F. H., *Jr.* U. 52
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- Blanchard, R. L., *Sr.* U. 19
- Bliss, H., *Sr.* 4 Manning
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 Bodfish, Miss E., *Gr.* 118 Cushing
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 Bowen, J. B., *Sr.* H. 27
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 Breckenridge, W. T., *Sr.* U. 48
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 Bromson, N., *Fr.* 48 Doyle Ave.
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 Brownson, Miss I. M., *Gr.* 84 Burnett
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 BUGBEE, E. T., *Sec'y Brown Union* 294 Benefit
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 Burdon, K. L., *Fr.* 102 Mitchell
 Burgess, M. M., *W. Jr.* 54 Sycamore
 BURLINGAME, E. A., *Supt. Grounds and Buildings* 359 Brook
 Burnell, R. L., *Sr.* 65 College
 Burnham, M. W., *So.* H. 43
 Burnham, W. R., *Sr.* H. 21
 Burr, H. R., *W. Jr.* 54 Lauriston
 BURRAGE, H. S., *Fellow* 77 Village Ave., Dedham, Mass.
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 Caldarone, A. A., 2d, *Sp.* 124 Federal
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 Campbell, L. B., *Sr.* H. 22
 Campbell, R., *W. Sp.* 54 Locust
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 Carr, M. E., *W. So.* 125 Governor
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 Cartwright, P., *So.* U. 25
 Cashman, J. J., *Jr.* 109 George
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 Chace, E. E., *W. So.* 51 Main, Pawt.
 CHACE, J., *Trustee* Valley Falls
 Chadwick, P. M., *So.* 108 Waterman
 Chafee, J. S., *Fr.* 5 Cooke
- Chamberlin, A. H., *Fr.* 10 Hopkins
 Champlin, C. A., *Fr.* 119 Benefit
 Champney, H. H., *Gr.* H. 2
 Chandler, T., *Sr.* 100 Waterman
 Chandler, W. R., Jr., *So.* 341 Brook
 Chaplin, W. W., *Fr.* H. 44
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 Clifford, S., *Sr.* No. S.
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 Close, L. E., *So.* 175 Thayer
 Coffin, A. B., *W. Sr.* 125 Governor
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- Crompton, E. L., *W. Sr.*
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- Crooks, M., *W. Sr.* 118 Cushing
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- Cummings, J. L., *Gr.*
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- Curtis, G. D., *Jr.* C. 16
- Curtis, P. O., *Sr.* C. 4
- Cushing, E. W., *W. Jr.*
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- Daniels, H. A., *W. Sr.* 119 Thayer
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- Davis, J. M., *Sr.* M. 316
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 Day, Miss A. M., *Gr.* 216 Medway
 Day, C. H., *So.* H. 46
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 Feinstein, H., *Jr.* 106 Olney
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- Gordon, H. R., *Fr.* 4 Manning
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- Hägglund, S. G., *Gr.* 45 Park
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Hincks, E. W., *Sr.* 99 Brown
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- Leonard, V. W., *Jr.* C. 23
- Leonard, W. C., *Fr.* 200 Waldo
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 Levine, J. L., *So.* C. 7
 Levine, V. F., *W. Sp.* 31 Benefit
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 McLeod, M. P., *So.* 110 Waterman
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 Marron, A. J., *So.* U. 46
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- Miller, J., *Sr.* H. 5
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 Rogers, S. G. A., *Sr.* U. 19
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 Ryley, H. W., *So.* U. 52
 Ryrie, J. A., *Jr.* No. S.
 Sack, E. M., *W. Sr.* 89 Andem
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 Salmon, E. A., *W. Fr.* 53 Elton

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Saxton, H. G., <i>Jr.</i>	109 George	Smith, F. R., <i>Jr.</i>	4 Manning
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Schiller, B. A., <i>W. Sr.</i>		Smith, I. G., <i>So.</i>	H. 13
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Schoonmaker, E. W., <i>Jr.</i>	54 College	Smith, J. L., <i>Gr.</i>	
Scott, G. C., <i>Fr.</i>	U. 34		148 Magnolia, Auburn
Scott, H. D., <i>Jr.</i>	4 Manning	Smith, M. J., <i>W. Fr.</i>	422 Plainfield
Scott, R., <i>So.</i>	6 Rutland	Smith, P. A., <i>W. Sp.</i>	118 Cushing
Scott, R. H., <i>Fr.</i>	81 Waterman	Smith, P. M., <i>Fr.</i>	C. 14
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	soit Ave., East Providence	Snow, R. R., <i>W. Jr.</i>	
Sheffield, W. P., <i>Jr., Sr.</i>	54 College		60 West Cole, Pawt.
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Sherman, M., <i>W. Fr.</i>	118 Cushing	Solinger, E. G., <i>W. Sr.</i>	
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Sherman, W. A., <i>Gr.</i>	Phenix	Southwell, E., <i>W. Fr.</i>	112 Wallace
Shoul, A., <i>Jr.</i>	M. 433	Southwick, E. F., <i>W. Sr.</i>	9 Star, Pawt.
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Sidkowsky, J. T., <i>Fr.</i>	42 Orms	Spatcher, W. S., <i>Sp.</i>	Attleboro, Mass.
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	158 Wood, Bristol	Sperry, M., <i>W. Fr.</i>	Oak Lawn
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PUBLICATIONS

The following list includes the official publications of the University with other pamphlets and periodical publications of interest to alumni and friends of the University.

Unless otherwise stated, copies of any of these publications may be obtained by applying to the Registrar, Brown University.

BULLETIN OF BROWN UNIVERSITY

This series includes the Annual Catalogue of Brown University; Annual Report of the President to the Corporation; Program of Commencement Week; Announcement of Courses for the following year; Announcement of Courses for the Women's College.

THE ANNUAL REPORT OF THE TREASURER

THE HISTORICAL CATALOGUE OF BROWN UNIVERSITY, 1764-1914

This Catalogue gives the names of all persons who have been connected with Brown University, with brief biographical data, and the present addresses of living graduates.

789 pages, cloth, \$1.25, delivered. Copies of the Historical Catalogue, 1764-1904, may still be obtained. Price \$1.00, delivered. Address the Keeper of Graduate Records, Brown University. Make checks payable to Brown University.

THE HISTORY OF BROWN UNIVERSITY, 1764-1914

By Walter Cochrane Bronson, Litt.D., Professor of English Literature. Published in connection with the celebration of the one hundred and fiftieth anniversary of the founding of the University.

548 pages, cloth, \$2.00, delivered. Printed by D. B. Updike, at The Merrymount Press, Boston, Mass. Address the Committee on the Academic Celebration and make checks payable to Brown University.

THE BROWN UNIVERSITY CALENDAR

The official medium for the announcement of all University appointments, including lectures and concerts, prize competitions, student meetings, and library exhibits. Published every Friday during the college year.

Subscription price \$1.00 a year. Address the Chairman of the Publicity Committee, 36 University Hall.

STUDENT LIFE AT BROWN

Published by Alumni.

A pamphlet of 28 pages, with illustrations.

THE BROWN ALUMNI MONTHLY

Published by Alumni.

Subscription price \$1.00 a year. Address Brown Alumni Monthly, Brown University.

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PLAN OF THE PRINCIPAL
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OF
BROWN UNIVERSITY

Wilson Hall (1891), gift of George Francis Wilson: physical laboratory, psychological laboratory, lecture rooms.

John Carter Brown Library (1904), given to the University by the Trustees under the provisions of the will of John Nicholas Brown: library of rare Americana.

John Nicholas Brown Gate (1904), gift of Mrs. John Nicholas Brown.

William Goddard Gate (1910), given by Mrs. C. Oliver Iselin, in memory of her father.

Maxcy Hall (1896): dormitory, lecture rooms, seminary rooms, botanical laboratory, herbarium.

Lyman Gymnasium (1891), gift of Daniel Wanton Lyman; with Colgate Hoyt Swimming Pool (1903), gift of Colgate Hoyt.

Engineering Building (1903): laboratories and lecture rooms of the departments of Mechanics and Mechanical Drawing and of Mechanical and Civil Engineering.

Aswell Hall (1903): dormitory.

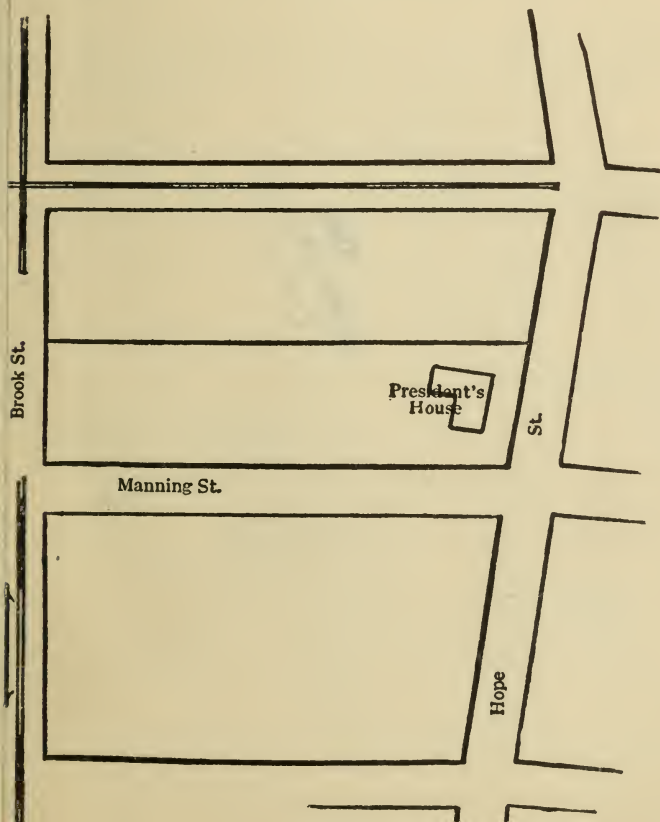
President's House (1901).

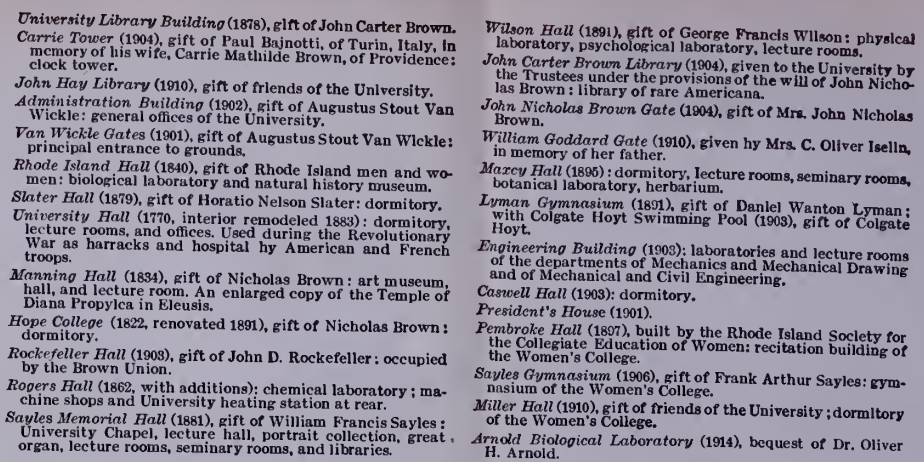
Pembroke Hall (1897), built by the Rhode Island Society for the Collegiate Education of Women: recitation building of the Women's College.

Sayles Gymnasium (1906), gift of Frank Arthur Sayles: gymnasium of the Women's College.

Filler Hall (1910), gift of friends of the University; dormitory of the Women's College.

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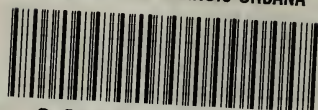


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